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ABSTRACT

This publication describes and compares 15 nationally available computerized job matching systems. The first section discusses job matching systems in general and provides an outline and a summary comparison table of the systems. The second section, which makes up the major part of the document, contains descriptions of 15 systems. For each system, the following information is provided: development, hardware required, software required, machine processing, output, relationship to assessment devices, training, reviewer's summary and contents, address, cost, and references. The following job matching systems are reviewed: CHOICES, Computer Assisted Vocational Rehabilitation Counseling Techniques (VOCOMP); CompuJOBS, Computerized Career Assessment and Planning Program (CCAPP), DataMaster III, Isabel, Job Matching II, Job Opportunity Based Search (JOBS), Job-Person Matching System (JPMS), Labor Market Access (LMA), Occupational Access System (OASYS), ValSEARCH Series, Vocational Adjudicative Rehabilitation System (VARS), Vocational Information Processing System (VIPS) or (AIS), and Work-Match. The third section is a comparative study of the various systems. References and a glossary comprise the final two sections. An appendix contains sample printouts of a test case using the various systems. (KC)

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A Comparison of COMPUTERIZED Job Matching Systems

second edition

Karl F. Botterbusch, Ph. D

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A Comparison of Computerized Job Matching Systems
(Revised Edition)

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Foreword

During the last five or six years there have been several major changes in vocational rehabilitation, forensic rehabilitation, and education. One of these major trends is the influx of micro-computers with appropriate software into our daily professional and personal lives. These machines have enabled us to deal with large masses of both verbal and numerical data in ways that front line service providers have never been able to do before. The areas of vocational assessment, vocational evaluation, placement and vocational counseling have seen the increased use of computer driven work samples and tests, the use of occupational information systems, word processing for report writing and, the subject matter of this book, computerized job matching systems.

In order to set the parameters for this publication, the key words, "computerized job matching systems", must be explained. A job matching system is a program (software) that compares a client's or student's strengths and weaknesses against the requirements of a job (i.e., occupation), a cluster of closely related jobs, or a training program. In its most basic form, a job matching system simply determines if a person's qualifications meet or exceed the requirements for a given job. The client's or student's qualifications side of the equation are determined by assessment, evaluation, review of medical records, etc. All input data must be entered in units meeting the individual program's entry requirements. The job or occupational training program side of the equation always contains one or more data bases. A data base is an array of units of information arranged according to a predetermined format.

The most common data bases in job matching systems are taken either directly or indirectly from the fourth edition of the Dictionary of Occupational Titles, the well-known DOT. Other data bases are developed around DOT concepts and definitions. Because of this, it is important that the user be familiar with U.S. Department of Labor terminology prior to using a job matching system. The variables used have very precise definitions that must be understood before use.

This publication is a review of presently available job matching software and procedures. With one exception, all of the eight programs reviewed for the 1983 A Comparison of Computerized Job Matching Systems are included in this revised edition. All of these systems made significant improvements in both their programs and their user's manuals. To a considerable degree, the new programs reflect a new sophistication that was lacking only a few years ago. Thus, there are a wide variety of programs from which to select. Although this has increased the possibilities of finding exactly what is needed for your facility, school or business, it also makes selection more difficult. One purpose of this publication is to make this selection easier.

A few words on the methodology used to prepare these descriptions is necessary. Each program in this publication was independently reviewed by both my graduate assistant Mr. Michael Beaupre and myself. This review involved a careful reading of the manual, a check of data entry forms, and most of all, running several test cases using production versions of the programs. After the independent reviews, we compared results, checked our differences, and agreed on a final description. Each draft review with its test case was sent to the program's developer for review. As these were returned, any needed changes or corrections were made. Although Mr. Beaupre was involved in the review process, any sins of either omission or commission are mine alone.

I would like to thank the developers and distributors of the various job matching systems for loaning or donating MDC copies of software, manuals and other materials. Finally, thanks go to my secretary and wife, Darlene Botterbusch, for the word processing, editing, and formatting of this publication.

Karl F. Botterbusch, Ph.D., CVE
September, 1986

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A Comparison of Job Matching Systems (Revised Edition)

This publication describes and compares 15 nationally available computerized job matching systems. The basic purpose of each system is to match a client's or student's vocational characteristics (commonly called a "profile") with specific job requirements. Matching is not a new concept, nor is the basic logic behind each computerized job matching system unique; what is new is the almost overwhelming speed and ease with which complex arrays of variables are manipulated. Vocational evaluators and other vocational professionals have always implicitly included some job matching as part of the evaluation or assessment process. Although this may or may not have been precise or have been based on the Dictionary of Occupational Titles or other information, one of the most fundamental goals of vocational rehabilitation has always been to help a person find a job based on what he/she can do as compared to the demands of a particular job. Although the availability of a new technology has not changed this basic goal, it has made the goal more attainable and has placed a definite requirement on the professional who chooses to use job matching software. If used with common sense, restraint and a thorough knowledge of the program's capabilities and data base, these job matching systems can increase the precision of evaluation and assessment outcomes while providing information on a wide range of vocational opportunities.

Although each computerized job matching system described in this publication has its own unique features, most [1] have five features in common:

1. Trait-and-Factor Basis - The basic concept of matching a person's Aptitudes, Interests, Temperaments, and Physical Capacities with those required by a specific job or group of closely related jobs is not new. All job matching systems are logical extensions of the trait-and-factor method of personnel selection used since the 1930's. Each job and each task within that job is a combination of specific requirements that can be identified and quantified. The goal of whoever was making selections was to match an individual's skills and abilities with corresponding job requirements. Thus, a successful placement occurred when the employee's skills and aptitudes equaled or slightly exceeded the job requirements. In other words, the job requirements and client abilities form an equation in which a good match occurs if one side equals the other:

   Client's Abilities = Job Requirements

   Or stated another way:

   Client's Traits = Job Performance Factors

   Although this concept is simple, the methodology is not. In order to identify and quantify job requirements, job and task analysis procedures were developed. Batteries of psychological tests, structured interviews, employment histories, weighted application blanks and other devices were used with varying degrees of success to predict if the worker could and would perform the job. On the other side of the equation, as job analysis, task analysis and job classification systems became more complex and standardized, there arose the need to classify and interpret large masses of data. The vast majority of job matching systems, regardless of their variables, use a trait-and-factor approach to compare a standard sized group of job requirements with the client's traits.

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[1] The Isabel and Job Matching II Survey are the major exceptions. Both of the systems use non-DOT data bases.

2. Use of DOL Job Analysis Terminology - Most systems are based on the standardized, carefully defined terms developed by the U.S. Department of Labor.[2] These systems derived their major data bases from the computer tapes used to develop the fourth edition of the Dictionary of Occupational Titles (DOT) (U.S. Department of Labor, 1977) and the Guide for Occupational Exploration (GOE) (Harrington and O'Shea, 1984). Although each job matching system has unique features and many have several other data bases, such as employer or school files, most systems require the user to input the following variables:

   General Education Development (GED)
   Specific Vocational Preparation
   Aptitudes
   Physical Demands (Capacities, Restrictions, Limitations)
   Environmental Conditions (Environmental Restrictions)
   Bi-Polar Interests [3]

   Each of these variables was taken from and defined in the Handbook for Analyzing Jobs (U.S. Department of Labor, 1972). Because each system is based on Labor Department concepts and definitions, a prerequisite skill for using a job matching system is a thorough knowledge of the following publications:

   The Dictionary of Occupational Titles
   Guide for Occupational Exploration
   Handbook for Analyzing Jobs

   Job matching system users should also be familiar with the Standard Industrial Classification Manual (Office of Management, 1972) and the Standard Occupational Classification Manual (U.S. Department of Commerce, 1980). No user can provide accurate input or interpret the results if he/she does not know the precise meanings of the variables that all of these job matching systems have in common.

3. Methodology Is Not New - The basic methodology of matching client profiles with DOT based job requirements is not new. Job Service (i.e., Employment Service) personnel developed several manual systems for matching General Aptitude Test Battery results with jobs over 30 years ago. Over the last 20 years, vocational evaluators have designed numerous procedures to compare a client's assessment results to DOT factors, most commonly Data-People-Things. Sophisticated commercially available manual systems, like the VDARE (Fields and Sink, 1981) and the McCroskey Vocational Quotient System (McCroskey and Perkins, 1981), have been available for several years. Both manual systems manipulate the full range of DOT related variables to select specific jobs. The advantage of computerized job matching systems is that they are capable of processing large numbers of variables quickly. Many systems also make connections (called "crosswalks") between several data files; these would be almost impossible to perform by hand

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[2] The Isabel system is the only one developed from a methodology other than that used by the Department of Labor. Job Matching II is loosely based on the Data-People-Things arrangement.

[3] See Glossary for definitions of these terms.

on a routine basis. Although increased speed and sophistication make all of these systems far superior to their manual ancestors, the basic logic behind the job search remains the same.

4. Garbage In Garbage Out - The need for accurate definitions and the ability to manipulate large numbers of variables leads to the fourth commonality: any system's output is only as good as its input. When the user enters an Aptitude rating or Physical Restriction, the computer program does not discriminate between data resulting from a carefully planned week of vocational evaluation or the result of crude estimates based on work history and a short interview. If these data do not reflect the client's ability, then the jobs listed on the printout will not be accurate predictions of what jobs the client can do. This is obvious and should not even need to be mentioned, but something strange happens when some people see a printout--they think that because the computer "said" it, it must be true. The list of selected jobs is only as accurate as the input, and the input depends on the accuracy of the assessment techniques.

5. Increased Professional Responsibility - The final point deals with the relationship between the user and the job matching program. Because job matching systems generate much more data than could be obtained from manual procedures, the user should exercise increased judgment when interpreting the results. This is especially true when the system's only data base is the DOT. Increased judgment requires training in the particular system as well as knowledge of the data bases. If no local data base is available, the user must be able to translate a list of DOT titles and codes into real job possibilities existing in the community. This results in an increased (NOT decreased) amount of professional time and requires greater knowledge. However, the major advantage of computerized job matching systems is the ability to eliminate the mindless task of going through a codes manual line by line or in having to guess at jobs for your client.

Although most job matching systems have the above five points in common, they differ in many ways. Some systems can serve a variety of functions, while others perform only one major task. If you are considering purchasing a job matching system, you should know in advance how you plan to use the system. In general, job matching systems have five major uses:

1. Placement - Conducting job searches for client or student placement is the most common use of most systems. In the simplest mode the evaluator, teacher, counselor or placement specialist receives a list of jobs that the client or student can perform. Some programs also contain general information on employers, and a few can list the location of specific job vacancies (if the data are entered). For example, the job title of Appliance Repairer (723.584-010) could be crosswalked through SIC codes to search a local data base for companies that repair large and small household appliances. Even if the printout contains no employer information, client and counselor receive a definite list of job titles on which to base a local job search. Using a system as a direct placement aid assumes the client's profile is recent and accurate and that he/she is ready to return to work. If the client is interested in a particular job, the counselor can match the client's profile against the job profile to determine the degree of agreement between the two profiles. This provides a basis for placement or counseling.

   When a job matching system is used primarily for placement, select systems having data bases representing jobs in the local or regional economy. For example, job matching systems with employer files or, even better, with the option for developing a local job bank are to be generally preferred over systems having the DOT as the only data base. The following systems only use the entire DOT or occupations selected from the DOT as a data base: VERTEK, CHOICES, CCAPP and Work-Match. Several other systems offer a system developed employer file and/or local employer statistics: VARS, Job-Person Matching System, ValSEARCH,[4] LMA and JOBS. Finally, some systems provide the option of developing a local job bank: VIPS, ValSEARCH, DataMaster III, JOBS, Job Matching II, LMA and CompuJOBS.

2. Transferable Skills - Many job matching programs include the client's work history. Some programs permit the entry of some or all previous jobs and to develop a composite work history profile from these jobs. This work history profile is updated to reflect present conditions. If a system does not have this option and if the user needs a job search profile based ONLY from job history, the user must first develop a composite profile by hand using the VDARE or similar process and then enter this final profile. The resulting list of jobs can be used for direct placement or to suggest training programs. If the number and type of jobs selected are related to present salary and employment conditions, the user has a powerful tool for assigning a percentage of vocational disability in worker's compensation or personal injury cases. The following systems have options allowing for the entry of a job history and then developing a profile from that job history: VOCOMP, DataMaster III, JOBS, JPMS, OASYS, VARS and VIPS.

   A word of warning is needed. Many job matching systems will claim to have transferable skills programming. In reality, most of these match only on worker trait profile variables (e.g., Aptitudes and GED). True transferable skills must be based on MPSMS (i.e., Materials, Products, Subject Matter and Services) and Work Fields (Elliott, 1983). These codes are determined from the client's work history. There are only three programs that provide a transfer of skills using this precise method: JOBS, OASYS, VARS and VIPS. ValSEARCH permits the entry of either MPSMS or Work Fields. It is interesting to note that these are the four programs requiring the most thorough knowledge of job analysis terminology and concepts.

3. Occupational Information - While most of the job matching programs reviewed in this publication are not specifically intended to provide occupational information, all systems can be a first step in this process. A printout of the jobs for which an individual is qualified may contain many unfamiliar occupational titles. With 12,375 occupational definitions in the DOT and Supplement, no one can be expected to be knowledgeable of all job possibilities. By using the following process any job matching system can be used for occupational information. The client or counselor uses the nine digit occupational code (i.e., DOT codes) and the six digit Guide for Occupational Exploration code as a start for locating occupational information. The jobs for which the client qualifies are determined prior to a narrowing down process that begins with occupational exploration. By selecting occupational titles first the client has the advantage of knowing that he/she should be capable of performing each job on the list. Securing occupational information becomes a positive, rewarding experience as opposed to finding an interesting job only to learn later that you are not qualified to perform it.

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[4] The reader should note that the ValSEARCH system is a series of four closely related programs. In this publication these four programs are treated as one program.

Although the above process can be used with all job matching systems, the CCAPP and CHOICES systems are specifically designed for occupational exploration. CCAPP's data base consists of 1,200 jobs classified into 66 occupational groups, arranged by four digit GOE code. CHOICES has carefully selected 885 occupational titles.

4. Counseling - The three uses given above assume that the client's profile is static; in other words his/her aptitudes, educational level and other variables will not change. In counseling, the client's profile can be made to simulate future functioning levels. For example, the counselor presents a list of job possibilities based on the individual's present levels of training and functioning. Using this as a baseline, the counselor could logically and systematically change the profile to determine how increased qualifications would result in increased job opportunities. For example, if a person was able to increase his/her General Educational Development and verbal aptitude by completing two years of college, many additional jobs would be available.

   The inverse process could be used with a disabled person whose condition is expected to deteriorate in a predictable manner. A counselor could select jobs based on anticipated loss of vision, strength or other specific physical limitations and begin to plan for these jobs with his/her client.

   Another way to provide counseling services is to compare a job in which the client is interested with the client's profile. Instead of searching the entire data base, the counselor and client select a specific occupational title and compare it variable by variable with the client's current or anticipated level of functioning. VIPS, ValSEARCH, CHOICES and JOBS have this feature.

   Although the Isabel system, in many ways the most unique program reviewed in this publication, also compares a client with a potential job, it uses a totally new approach. This program matches work aids and assistive devices to a client's specific physical limitations, as related to a special job.

   The Job Matching II is another system useful in counseling. Designed to measure a client's interests based on an assessment of 20 interest factors, the system matches the client's profile to job profiles. This provides the user with job matching based totally on interests.

5. Education and Training - Job matching systems can be related to formal education and vocational training programs. Some systems provide lists of schools offering training for particular professional, clerical, technical or skilled occupational areas. The counselor quickly obtains specific information on what programs relate to what occupational areas. This job-training matching process can also be conducted manually for systems not having this crosswalk. The client or counselor needs to take the job list and relate it to specific educational institutions.

   Job matching systems yield training and education data either by providing a ready to use data base or by providing a format into which the user can develop his/her own data base. The VIPS and JOBS have already existing educational data bases. ValSEARCH provides a data base format for local educational bank development. However, the really unique program is the VOCOMP's process of combining occupational selection with detailed lists of local training programs.

How to Select a Job Matching System

We have presented the common aspects of job matching systems and their uses. There are, of course, quantitative and qualitative differences that will be described in the reviews of each system. Before presenting information on individual job matching systems, a more basic decision needs to be made - "Do you need a computerized job matching system?"

The decision making process for the purchase of a job matching system is identical to the process for making other major institutional or business purchases. It must be based on a real need, as reflected in a list of specifications. Common needs are the desire to become more competitive by offering a new or improved service, a desire to save time and/or to cut costs.

Above all, the facility, school or business must first decide what they need and then look for a product or products to fill their need. By using this approach you are more likely to obtain the system that is right for your organization. In other words, first decide what you need and then locate a system that fills this need; never purchase a system and try to fit it in someplace.

One limitation in all systems must be mentioned. Because all systems are based on the job demands of competitive employment, they will not discriminate between noncompetitive occupations. For example, not one job in the DOT data base requires an Aptitude G (i.e., General Learning Ability) rating of 5 - the bottom 10% of the population. If the evaluation unit is restricted to serving persons who are so severely disabled that competitive employment is not an option at the present time, then none of the systems reviewed in this publication will be useful. Beyond these limited circumstances, most evaluators and teachers will find a system useful. However, whether this degree of usefulness justifies initial purchase and operating costs is another concern.

While job matching systems can be used with any person capable of competitive employment, most systems are designed for the following service populations: (1) younger persons needing counseling and information on placement, training and job skill development, (2) mildly and moderately disabled persons with employment histories and transferable skills, (3) disabled persons with recent and accurate evaluation or assessment data, and (4) forensic clients, such as Social Security Disability and Worker's Compensation. If an evaluation unit serves one of these populations and, especially, if the professional is involved with direct placement, then a job matching system should seriously be considered.

Once you decide that a job matching system has potential benefits, then a selection process begins. As stated above, first prepare a list of the features or specifications that you would ideally like to have. The following is a list of considerations that are especially important:

1. Data Base - Because it represents the reality of the labor market, the data base is the single most critical element in a job matching system. Although there are other data bases, such as employers, educational institutions, and job banks, the most common data base is the Dictionary of Occupational Titles.

   There are two separate concerns with the DOT data base: (1) selection of occupational titles from the DOT for inclusion in a system's data base and (2) the adequacy of the DOT as a data base. With regard to selection, the DOT and

Supplement contain 12,375 occupational definitions. Some job matching systems (i.e., CHOICES, CCAPP, DataMaster III, JPMS, CompuJOBS and Work-Match) designed for floppy disks do not contain the entire data base. If a system does not contain the entire DOT data base, you must determine if the occupational titles in the data base represent the most common jobs in the local economy, jobs that are typical in their requirements, entry level jobs, jobs with high turnover rates and/or jobs with predicted future growth.[5] The jobs in the data base should be compared to jobs commonly occurring in the local economy to determine if these job titles are in the data base. For example, Isabel and DataMaster III selected their data base from growth occupations and/or occupations having a steady manpower need. Using a different approach, the CompuJOBS data base was also carefully selected.

There are many serious questions about the adequacy of the fourth edition DOT. Although the DOT is a very useful document, or, to be more precise, is the only document giving occupational definitions for the entire national economy, there are numerous problems with use of the DOT as the only data base.[6] Most of the following discussion was taken from Miller, et al. (1980) and Elliott (1983).

a. Most, if not all, of the data base is old. The collection of job analyses for the fourth edition began in 1966, after the publication of the third edition in 1965. Data collection continued until 1976. The fourth edition was published in 1977, thus making the job analyses, that are the basis of the DOT, between ten and twenty years old. Not only have job duties and requirements changed over the past ten to twenty years in most jobs, but entire new occupations have emerged and some older occupations do not exist.

b. There is a considerable lack of quality in the job analyses making up the DOT data base. Miller, et al. (1980) reported on a large sample of job analyses: "Job analyses were often incomplete and were most often verifications of third edition descriptions rather than new analyses" (Elliott, 1983, p. 89). This implies that some of the DOT data base is well over 25 years old.

c. The job analyses procedures used by the Occupational Analysis Field Centers were not consistent. The Handbook for Analyzing Jobs (U.S. Department of Labor, 1972) was not printed until data collection was almost completed. Miller, et al. (1980) reported that many of the procedures used prior to the publication of the Handbook were not defined or disseminated to Field Centers in a consistent manner. However, the most serious change occurred from 1974 to 1976:

> ...analysts were directed to concentrate their efforts on verifying jobs against existing job schedules for similar jobs in other establishments or against the DOT definition if the job could be converted to a third edition code. In this way much of the time-

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[5] If you plan to use a system for Social Security Disability determination, it is suggested that a system with entire DOT data base be purchased. This is because SSA bases decisions on all the jobs in the national economy.

[6] Here the word "DOT" is shorthand for both the publication and the job analysis data base that produced the publication.

> consuming writing entailed in completing the job analyses schedule was eliminated. (Miller, et al., 1980, p. 140)

d. There simply were not enough job analyses completed to provide adequate coverage of the over 12,000 job definitions in the DOT. Sixty percent of the job definitions were based on two job analyses or less. In other words, an occupational definition representing several hundred thousand jobs could have been prepared from one job analysis. Apparently, reviewers attempted to compensate for this weakness by using, without modification, occupational definitions from the third edition. A random sample of 307 DOT base title occupations, revealed that 81 or 26% of the fourth edition definitions were identical to those in the third edition (Booz, Allen and Hamilton, Inc., 1979). Finally, 16% of the occupational definitions were based on no new job analysis.

e. A considerable number of questions can be raised about the sampling procedures used. The population from which the individual jobs were selected potentially included every competitive employment position in the American economy. Sample selection occurred at three points in the data collection: the industry level, the establishment level and the job level. At the industry level sampling procedures were based on industrial designations; these were not applied in a uniform manner. Second, at the establishment level the only consistent finding of Miller, et al. (1980) was that field center personnel selected establishments geographically close to the field center. Finally, no attempt was made to observe certain types of jobs, including some professional jobs, seasonal jobs, and jobs involving a wide variety of tasks spread over long periods of time. (Miller, et al., 1980, p. 141).

   Thus, there are many jobs, such as vocational evaluator, that are not included in the DOT. In addition, a critical review of the sampling procedures clearly demonstrated that retail trade and services were underrepresented; manufacturing was overrepresented.

f. The final problem deals with transfer of skills, a key element in vocational decision making. To quote from Elliott (1983):

   > There does not appear to be a single way of combining DOT variables that are appropriate for transfer of skill for workers of all vocational backgrounds. Using MPSMS and Work Fields as ways of limiting a search and transferring skill may be appropriate for a blue collar worker, but would be inappropriate for a person with a college degree (p. 93).

   Because the transfer of skills is both a vocational evaluation and legal concern, this criticism is extremely important.

Of equal importance, a system should contain procedures for establishing a user developed job bank. The capability to develop, update and access a local job bank is seen as the most potentially powerful use of any job matching system. Software with this capability provides the basis for actively matching clients with existing vacant positions within the community. Of course, the organization choosing a system with job bank capabilities must be prepared to collect, edit and enter job vacancies as they become known; this implies the ability to perform at least a minimal job analysis on vacant jobs. The following job matching systems permit the user to develop a local job bank: VIPS, ValSEARCH, JOBS, DataMaster III, CompuJOBS, Job Matching II.

If the system offers employer files check the ones for your locale to determine if they are accurate. When checking employer files, make certain that all types of employers are represented, not just large manufacturers, and that the data are recent. The same is true for educational programs. You also need to determine when the data base information was collected, what the original source was, how often it will be updated, and if you will receive the updated version as part of the price of the system.

Some systems also contain an educational institution data base (i.e., VOCOMP, JOBS, VIPS). When considering this as a data base, determine if it can be crosswalked from the main program, it if can provide specific data about both the educational institution and its respective programs, and how recent the data base is.

Finally, several systems contain storage files for keeping and updating client records (i.e., DataMaster III, OASYS, JOBS, VARS and VIPS). Because these "client banks" permit working with a client without having to reenter data, they are very useful. If you are considering a system with a client bank, ask how many records the file will hold, determine the ease of updating, type of data that can be stored for each client and especially, can the client bank be directly matched to jobs or training in the other data bases.

In summary, this section has discussed the following data bases:

a. Dictionary of Occupational Titles

   - The entire DOT and Supplement
   - Occupational definitions selected from the DOT

b. Job Bank - A locally developed file for current job openings.

c. Employer File - A list of known employers within a particular geographic area.

d. Educational File - A listing of colleges, vocational-technical schools, etc. within a specific geographical area.

e. Client Bank - A listing of client profiles and other information stored in the system.

2. Versatility - The job matching system must be flexible in two ways: user options and selection of data bases. If you are planning to spend several hundred or thousand dollars on software and equipment, you are going to want a system that performs a variety of tasks. Does the system simply take the client's profile and give you a list of jobs in return? Can you specify a single change in the client's profile to reflect a hunch or to answer a client's question or do you have to reenter the entire profile again?

Other questions center around data entry restrictions: Can you sort on more than one of the GOE interest areas at the same time? Can you enter the Specific Vocational Preparation, or is this set by the job history? Does the system have employer files, and what geographical restrictions can you place on them? Can you interact with the program to solve unique problems, or do you just enter the profile and wait for the answer? The user should be able to interact with the program if he/she chooses.

Interaction between person and program raises the question of "How user friendly is the system?" Few of us desire to learn a new technology or to become programmers in order to run software. Because they do not require specific skills, all of the programs described in this publication are considered user friendly to varying degrees. There is a trade-off between versatility and user friendliness. A versatile system (e.g., JOBS or VIPS) has, by definition, a wider range of options that require decisions and input from the user; to manipulate these to full advantage requires knowledge of both the program and the data base. Therefore, you must make some decisions as to the amount of versatility required.

3. Cost - The potential purchaser should calculate the total cost of the hardware, estimate the cost per client, and determine the benefits derived from use. The initial cost depends on what equipment and software must be purchased. A few systems (i.e., VOCOMP, CompuJOBS, Job Matching II and JPMS) do not require the purchase of computer equipment or software; they have an optional mail-in service with a per case charge. If an organization already has a personal computer that is compatible with the software, they need to consider the scheduling and increased maintenance problems resulting from increased use. If the user does not have a computer, be aware that most systems require a minimum of 128K RAM, two disk drives, monitor, and printer. If planning to use a system (i.e., VOCOMP, VARS and VIPS) linked to mainframes, they will need either a terminal or telephone connection (modem) added to their personal computer. In addition to the purchase of all equipment, maintenance and service contracts must also be provided. In calculating costs, the facility must also consider other uses for the equipment. Many of the systems described in this publication are designed to operate on popular microcomputers, such as Apple and IBM, which also will run a variety of software. If equipment is used for other purposes, then the entire cost of the hardware should not be charged against the job matching system.

   In calculating the cost per client estimates, the organization should consider: length of service from the hardware and software, regular updates of both data base(s) and program, maintenance, service and repairs, expendable supplies such as paper and forms, utilities, postage or telephone charges and per case or per minute computer charges for some systems. Personnel cost per case can be estimated by dividing the average number of minutes it takes to process a case by the hourly salary, plus benefits, for the person operating the computer. Finally, if the user develops a local job or training bank, the cost of job analysis, data entry and file maintenance must be included. In order to have a truly accurate job bank these costs will be quite high.

   The cost of the system and the cost per client must be balanced against the costs of a manual system and expanded results. The business or facility must ask what improvements will result from a computerized job matching system. Some of the potential savings that could more than offset the costs are: (1) less professional staff time performing clerical level work in searching the DOT and GOE for jobs, (2) the selection of jobs in new areas that may not have been previously considered, (3) capacity to prepare reports in a brief time period, (4) capability of relating directly to placement activities through job and employer files, (5) a more precise data base on which to judge extent of disability for legal proceedings, and

(6) potential for increased referrals by offering a practical and unique service. Unfortunately, these benefits are difficult to access. In conclusion, the potential purchaser must consider several areas of cost besides the price tag on the hardware and software; they must also give considerable thought to how they can justify this cost through increased service or improved efficiency.

4. Compatibility - The organization must first understand the evaluation and placement process and be able to determine at what phase(s) during that process the system will be used. The reason for this is very simple: The needs of the program should determine specifications for the job matching system, not the other way around. As with commercial work samples or any other major process the purchaser must not buy a system and attempt to fit it in some place (Botterbusch, 1986). Thus, the user needs to carefully determine how he/she intends to use a system and then prepare specifications reflecting these needs. The data input requirements necessary to complete a client's profile must be known and the evaluation, assessment or testing program should provide these data. The organization should not have to redesign their total concept of vocational evaluation in order to meet the input requirements of the program.

   The jobs and related data derived from the job matching system should also be compatible with the user's needs. If the content or format of the printout makes its incorporation into a report difficult, then a more useful format should be sought. If the crosswalks between qualifications and local labor market data are neither workable nor detailed enough, seek another system. In summary, prior to selecting a system, know what your needs are and try to find a system which is compatible to these needs.

The rest of this publication will present information on specific job matching systems that will enable the potential purchaser to select the system that fits his/her organization's needs.

Job Matching Systems Outline

1. Development

   a. Producer - The person(s) or company performing the original development of the system; the person(s) or company responsible for major revisions.

   b. Purpose - The goals(s) or outcome(s) that should occur when the system is used as intended. Is the system designed only for job matching, placement, wage loss analysis, or counseling, or can it serve a variety of interrelated or separate functions?

   c. Data Base - A detailed description of the data base included in the software, sources, and development date. For example, are data bases taken from the Dictionary of Occupational Titles, Guide for Occupational Exploration, U.S. Department of Labor or Education data bases, Census publications, employment statistics, etc? How much data from each source are included (i.e., the entire data base or selected sections)? Does the user have the option to construct data bases reflecting local or special needs?

   d. User Groups - Who are the major user group(s) (e.g., guidance counselors, vocational experts or vocational evaluators)? Can the system be used by students or clients for self-exploration and/or job searches?

2. Hardware Required

   What specific hardware is needed to operate the system? Included are computer or terminal name(s), the amount of memory, number of disk drives, type of printer, telephone modem, etc. If the software is available for several models and manufacturers, the specifications needed for each will be listed.

3. Software

   a. User Manual - Is a detailed user manual provided? What are the contents of this manual, and does it contain all necessary information? How is the manual organized? Are instructions written in a logical sequence and are they easy to understand for the novice user? What degree of "computer literacy" is necessary to use the equipment and programs? What are the levels of use and sophistication? Are error codes and correction procedures clearly defined? Is the manual appropriately documented and referenced?

   b. Forms - What type of forms are required for use? Are standardized data entry forms available? Does the system include any forms for case control or case management? If a mail-in form is used, are they easy to use? Are any standardized interpretation forms used?

   c. Other Software - In addition to the user manual and forms, does the system provide information on the technical aspects of the system?

   d. Expendable Supplies - What expendable supplies are needed for regular use? This includes report forms, interpretation sheets, etc.

   e. Support Systems - Is personal help available at the technical level to solve problems in system use? Is consulting available at the professional level to interpret results and to solve problems?

4. Machine Processing

   a. Input Procedures - How are cases entered into the system? If more than one data entry option is available, such as keyboard, telephone, mail, terminal to central processing source, how is each accessed?

   b. Data Input - What type of data, such as job history, Aptitudes, acceptable salary level, and Physical Limitations, can be entered? What variables, and in what format, must the user provide before the program will operate? What method is used to deal with missing data?

   c. User Control - How much control over the data manipulations does the user have during the processing of each case? Can the user select different modes (i.e., sub-routines) or options after processing has begun? Can the user interact with the computer program at critical points during data processing? What are the options for processing each case? Can you go back through the program and change options? The point of this series of questions is to determine the degree to which a system is truly interactive.

   d. Processing Sequence and Logic - What are the steps in processing a typical case? How are decisions made within the job matching program on each major set of variables? How are decisions made on dichotomous and continuous variables? How are variables selected for processing? Are internal audit checks provided and are these available to the user?

   e. Data Output - What options, if any, does the user have to control output (i.e., screen display or printed report) functions? Can the user specify changes; add comments or explanations? How is output received, such as return mail, printer or screen?

5. Output

   a. Format - What is the format of the output in terms of printer quality or dimensions (i.e., 80 or 132 space printout)? Are the data explained in the report? Is the report format logical and easy to read and use?

   b. Content - What are the major parts of the printout and what data are provided on each, such as demographic variables, job history, physical limitations, and potential jobs? Is the report aimed at the professional or can it be interpreted by the client? Are specific jobs listed? Are employment statistics, key job requirements, potential employers listed? Are DOT and GOE codes given? Are terms like "interests", "aptitudes", and "strength" defined for the client or the professional? How are results interpreted and used? How much extra material is in the report that is really not needed?

6. Relationship to Assessment Devices

   Is the job matching system related to any specified set of evaluation procedures or work sample system?

7. Training

   a. Training Required - Is formal training required before a system is sold?

   b. Training Available - How and where is training provided? What is the content and how long does it take?

   c. Follow-up - What user services, such as hot line, periodic updates, consultation, are provided after purchase? How extensive are these services?

8. Reviewer's Summary and Comments

   This contains what the reviewer considers to be the major advantages and disadvantages of the system. Unique points about each system and some ideas for system uses are also considered.

9. Address

   The address of the developer/marketer of the system.

10. Cost

   How much do the various components of the system cost? What is the price for an entire system? For on line systems, what are the hourly or per case costs? Cost includes policies on lease, rent, purchase, "batch" charge and staggered charges. Price also includes material, expendable supplies, set-up cost, and telephone lines.

11. References

   Nonpromotional articles, technical reports about the system, its development and its use.

OUTLINE	CHOICES	VOCOMP
1. Development		
a. Producer	Canadian Employment and Immigration Commission; CSG, Inc.	Gary and Marjorie Golter
b. Purpose	career guidance; occupational information	rehabilitation information handling
c. Data Base	885 occupational clusters from SOC Index	entire DOT; local employers; local labor market; wages; educational institutions
d. User Group	guidance counselors; high school students; young adults	vocational rehabilitation practitioners
2. Hardware		
a. Specifications	Apple II Plus/Apple IIe; Commodore PET (8032 and 4032 versions); Commodore C64; IBM-PC. 2 disk drives; printer	time sharing system via modem
3. Software		
a. User Manual	very complete user's manual; all system details; use of system; all software very well written	step-by-step instructions; report construction
b. Forms	student/client entry form	optional mail-in form
c. Other software	counselor's manual; student guide for self-assessment; 5 floppy disks	none
d. Expendable Supplies	student guide; data entry forms; paper for printer	referral forms; printer paper
e. Support	hotline telephone number for technical level service	toll-free line

CCAPP	CompuJOBS	DataMaster III
C. Steven Hyre; Dr. E. Ty Gardner; Jefferson Software	Dr. S. W. Thomas; C. R. Thomas; Chris Hargett; United Computer	Dr. Billy J. McCroskey; Vocationology
career guidance; occupational information	evaluation planning; restricting job searches; rehabilitation planning and reporting	job matching/placement for disabled adults
1200 jobs	1461 jobs - North Carolina Standard Metropolitan Statistical Analysis of Job Projections to 1990; up to 250 local employers	separate data base is available each state; 805 jobs from a national data base also available
high school students	vocational evaluators; vocational experts; rehabilitation counselors	vocational experts; placement specialists; rehabilitation counselors
Apple IIe, Apple Plus; IBM-PC; Radio Shack TRS-80 Models III & IV	IBM-PC/IBM-AT; Apple IIe; Radio Shack Models III & IV	IBM-AT/IBM-XT/IBM-PC and compatible computers; Radio Shack TRS-80 Models III & IV or IV-P; Apple II
1 disk drive; printer	2 disk drives; printer	2 disk drives; printer
contains most system details; refers user to computer for further and detailed instructions; very easy to follow and understand	contains all system details; well organized; ideas for working with various disability groups	contains most system details; step-by-step instructions; some sections confusing
forms printed by computer	optional one-page mail-in form	optional data entry form
4 floppy disks	2 floppy disks	sold with 1 floppy disk, copied and placed on 3 floppy disks
paper for printer	paper for printer	paper for printer
no mention made in manual	no information available	hotline telephone number

OUTLINE	CHOICES	VOCOMP
4. Machine Processing		
a. Input Procedure	data entered on keyboard in response to monitor	terminal; mail-in; phone-in
b. Data Input	user selects variables from 14 topics and arranges in rank order	personal; vocational history; Aptitudes; etc.
c. User Control	selection of 4 program options; priority of data entry	control to select 1 of 2 analyses
d. Processing Sequence and Logic	matching of variables within a given priority	client profile; combine with data base to obtain analysis
e. Data Output	no control over format or content once selections are made	results mailed to user; terminal user can print reports on PC; no difference in content or format
5. Output		
a. Format	80 column, continuous feed	14 3/4 x 11 inch; 132 column format; 66 lines
b. Content	content varies by option; all variables listed; no DOT titles/codes listed	identification; matched percentages; job information; training
6. Relationship to Assessment Device	data entry based on guide; recommends some tests, but not required	specific tests are recommended but not required
7. Training		
a. Required	no	no
b. Available	yes	no information available
c. Follow-up	annual refresher/updating training is available	no information available

CCAPP	CompuJOBS	DataMaster III
data entered on keyboard in response to monitor assessment data - GOE, Bi-Polar Interests; Aptitudes; etc.; DPT, GED, SVP, etc.; vocational training no control over program logic; extensive control over data entry selection of module permits no deviations; logic centers on manipulation of 66 clusters no control over format or content	data entered on keyboard in response to monitor; data sheets mailed in search variables - GED, SVP, Aptitudes, etc.; updated job description; client demographic data extensive control over data entry; control over logic of selection selected logic for each variable matched against jobs in data base no control over format; total control over content of output	data entered on keyboard in response to monitor personal, job history; assessment data - GED, Aptitudes, etc. considerable control over data input and file construction job history; basic assessment data compared to data base limited control over format; no content control
8 1/2 x 11 inch, continuous feed content varies by option; all variables listed	80 column, 8 1/2 inch x 11 [illegible]h profile - demographic and job related variables; job search - DOT title/code and job related codes	80 or 132 column, continuous feed demographic information; employment history; profile data; selected jobs; DOT title/code, etc.
no relationship - data can come from any source	no relationship - data can come from any source	no relationship - data can come from any source
no no information available no information available	no on a consulting basis on a consulting basis	no no information available telephone number provided for assistance

OUTLINE	Isabel	Job Matching II
1. Development		
a. Producer	FARF & NOICC	PREP, Inc.
b. Purpose	vocational evaluation; career exploration and job placement; company safety programs; job modification	vocational counseling; career guidance
c. Data Base	150 jobs - DOT; over 1000 assistive devices	national data base; local user developed data base
d. User Group	jointly used by client and counselor	high school students; special needs students; displaced workers; retirees
2. Hardware		
a. Specifications	IBM-XT, IBM-AT, and IBM compatible 1 disk drive; printer	Labelle cartridges and a slide/tape machine or book containing color photographs; local scoring option
3. Software		
a. User Manual	contains most system details; data entry and case processing very well written; does not contain specific instructions to load the program	manual is well organized, containing many examples of completed forms, detailed instructions
b. Forms	one data entry form	one data entry form for Quick Score System; one data entry form for mail-in
c. Other Software	8 floppy disks; separate manual describes data collection procedures and lists aids and accommodations	QuickScore - 1 floppy disk
d. Expendable Supplies	forms and paper for printer	answer sheets or response cards; if QuickScore is used, need printer paper
e. Support	hotline telephone number	no information available

JOBS	Job-Person Matching System (JPMS)	Labor Market Access (LMA)
Train-Ease Corp.	Dr. Eugene Perkins; Career Development Specialists	Elliot and Fitspatrick, Inc.
not specified; wide variety of uses	vocational counseling; rehabilitation counseling; vocational exploration	loss of employability and wage loss analysis
entire DOT; schools, employers for selected areas; OES survey; client bank; job bank	SMSA Areas; 1000 titles national data base	entire DOT; 503 title Census Codes
rehabilitation counselors; placement specialists; evaluators; guidance counselors; vocational experts	Vocational evaluators; rehabilitation counselors; guidance counselors	vocational experts in forensic rehabilitation
IBM-PC and compatible computers	IBM-PC	IBM-PC/XT/AT
2 disk drives; printer; hard disk	2 disk drives; printer	2 disk drives; printer
manual appears to be well organized, but becomes confusing at times; not all program options are covered; experience is needed to install hard disk	well organized manual; many examples; contains all system details	manual is very brief in explaining operations, data base construction and revision; no case studies or data entry instructions are provided; lacks interpretation of results
optional data entry form	one data entry form	no forms used
none	2 floppy disks	5 floppy disks
data entry form, if used; paper for printer	data entry form; paper for printer	paper for printer
toll-free telephone numbers are available	questions answered by telephone or mail	no mention made in manual

OUTLINE	Isabel	Job Matching II
4. Machine Processing		
a. Input Procedure	all data entered on keyboard in response to monitor	separate answer sheets
b. Data Input	Physical Capacities and desired job	data entered in response to pictured items
c. User Control	complete control over process	no control over administration, scoring and reporting
d. Processing Sequence and Logic	Physical Capacity data compared to selected occupation; search for various assistive devices	response to 400 pictures, forced choice; compared to data base
e. Data Output	no control over format or content; can print screen display at any time	no control over format or content; standard format
5. Output		
a. Format	80 column format	80 column format
b. Content	identification and biographical data; selected job - DOT title/code; profile data; adaptive aids, if selected	philosophy and process of system; profile data; job matches - DOT title/code
6. Relationship to Assessment Device	no relationship - data can come from any source	can interface with PREP, Inc.; work samples
7. Training		
a. Required	no	no
b. Available	provided upon request	no information available
c. Follow-up	ongoing support and follow-up provided	no information available

JOBS	Job-Person Matching System (JPMS)	Labor Market Access (LMA)
data entered on keyboard in response to monitor	data entered on keyboard in response to monitor	data entered on keyboard in response to monitor
profile data - GED, SVP, Aptitudes, Physical Demands, etc.	demographical; work history; evaluation data - DPT, GED, Aptitudes, SVP, etc.	search variables - GED, Aptitudes, SVP, Strength, Physical Demands, Environmental Factors, post & pre-injury data
considerable control over input content; control over files	establish critical variables; number of jobs printed	extensive control over data entry; selection of data base;
profile data compared to data base either/or logic	critical variables; job history and data; data establish limits which are then compared to jobs	pre and post injury data compared to selected data base
no control over format or content	no control over format or content	no control over format or content
132 column, standard or compressed; continuous feed	80 column, continuous feed	80 column format, continuous feed
profile - GED, Aptitudes, etc.; selected jobs - DOT title/code, employers	job history by DOT title/code; selected jobs; evaluation data - DPT, GED, Aptitudes, etc.	identification data; all variables listed; percent of jobs and wages
designed to interface with SAGE; data can be from any source	no relationship - data can come from any source	no relationship - data can come from any source
no	no	no
two day training program recommended	yes	no
no	through telephone or mail	no

OUTLINE	OASYS	ValSEARCH Series
1. Development		
a. Producer	VERTEK, Inc.	Valpar International, Inc.
b. Purpose	transfer of skills analysis; placement; career guidance; occupational exploration	job matching; counseling; education matching; occupational information
c. Data Base	entire DOT	entire DOT; local job bank; employer talent bank; local training bank
d. User Group	rehabilitation counselors; career counselors; insurance claim managers; occupational analysts; health practitioners; vocational educators, etc.	vocational evaluators, rehabilitation counselors; guidance counselors; personnel managers; vocational experts
2. Hardware		
a. Specifications	IBM-PC or compatible system; Unix and Xenix operating system 20 megabyte storage; printer	IBM-PC/XT; 2 disk drives; printer Apple II/II+/IIe; 2 disk drives; printer; advanced logic system Z-engine card
3. Software		
a. User Manual	very well written; contains all aspects of the system; lacks detail on case processing	Contains most system details; step-by-step instructions; well written; easy to understand
b. Forms	optional data entry form	three of the programs have data entry forms
c. Other Software	floppy disks	job bank 12,375 - IBM 3 disks, Apple 6 disks; local job bank - IBM & Apple 4 disks; employee talent bank - IBM & Apple 3 disks; local training bank - IBM & Apple 3 disks
d. Expendable Supplies	paper for printer	paper for printer; 3 of the 4 programs require forms for data entry
e. Support	data base updates; consulting; training; trouble shooting, etc.	telephone support is available

VARS	VIPS	Work-Match
George M. Watters; Ability Information Systems	George M. Watters; Ability Information Systems	Richard Bernatches; Robert Prudhomme; Microcomputer Applications
adjudication of Social Security Disability Determination Insurance cases	job matching; transfer of skill analysis; placement; voc. guidance counseling; education selection; occupational information; disability assessment	placement; vocational guidance counseling
entire DOT; OES Survey; some local employer files	entire DOT; OES Survey; schools; employers; and local jobs	1275 jobs - DOT
vocational experts; attorneys; vocational evaluators	vocational experts; vocational evaluators; placement specialists; disability determination specialists	vocational evaluators and counselors
time sharing system; uses modem; interfaces with a wide variety of common equipment	time sharing system; uses modem; interfaces with a wide variety of common equipment	IBM-PC; 1 disk drive, RS232 port; printer Apple II, 2 disk drives; printer
complete manual on operations; tends to shorten some explanations and procedures	complete manual on operations; tends to shorten some explanations and procedures	well organized; easy to follow; detailed instructions on system use; step-by-step instructions
no forms used	no forms used	two work sheets for collecting client data
none	none	1 floppy disk
paper for printer	paper for printer	paper for printer
hotline telephone number for technical level service	hotline telephone number for technical level service	address and telephone number are available if any problems

OUTLINE	OASYS	ValSEARCH Series
4. Machine Processing		
a. Input Procedure	data entered on keyboard in response to monitor	data entered on keyboard in response to monitor
b. Data Input	demographic information; work history; search variables - GED, SVP, etc.	personal; Worker Trait Variables - GED, SVP, Temperaments, etc.
c. User Control	considerable control over program	considerable control over program options
d. Processing Sequence and Logic	construct job history; compare to data base	matching variables within given data base
e. Data Output	no control over format, slight control over content	no control over content or format once selection is made
5. Output		
a. Format	80 column format	80 column format
b. Content	job history profile - DOT title/codes	content varies by option; each variable listed
6. Relationship to Assessment Device	no relationship - data can come from any source	no relationship - data can come from any source
7. Training		
a. Required	no	no
b. Available	yes	no information available
c. Follow-up	yes	no information available

VARS	VIPS	Work-Match
terminal; response to monitor	terminal; response to monitor	data entered on keyboard in response to terminal
demographic; work history; age; education; disability	job history; client profile to adjust work history - GED, Aptitudes, SVP, etc.	profile variables - DPT, GED, Aptitudes, etc.
user has some control over program options	extensive control over several major modes and utility programs	considerable control on data input and file construction
adjusted profile compared to data base;	final adjusted profile compared and specified; compared to data base; use either/or logic	choice of search options; profile variables matched against data base
limited control over contents; user can add comments	almost complete control over printout; user can add comments and explanations	no control over format or content
8 1/2 x 11 inch; space for letterhead	8 1/2 x 11 inch; space for letterhead	132 column format
identification data; work history; vocational factors; jobs selected; disability decision	job history; profile job selected - DOT title/definitions; employers	profile variables; selected jobs - DOT, GED, SVP, etc.
no relationship - data can come from any source	no relationship - data can come from any source	no relationship - data can come from any source
no	no	no information available
yes	yes	no information available
no	no	consultation hotline

Descriptions of Systems

CHOICES

(U.S. National Version)

1. Development

   a. Producer - Initially developed by the Canadian Employment and Immigration Commission (CEIC) for use with mainframe computers, the CHOICES (Computerized Heuristic Occupational Information and Career Exploration) product line was refined and marketed by the CSG corporation.[7]

   b. Purpose - The major purpose of CHOICES is to introduce users to a vocational decision making process and to provide career guidance and occupational information to high school students. However, it may be used by older persons who are seeking new careers or career changes, such as: dissatisfied workers, handicapped workers, mid-life career changes, and unemployed workers.

   c. Data Base - The data base consists of 885 occupations taken from the Standard Occupational Classification Manual (U.S. Department of Commerce, 1980). The manual contains no information on the procedures used to select these occupations. However, the Master List of Occupations lists all 885 occupations classified by two-digit SOC codes, as well as the DOT codes and related titles. The data base appears to overrepresent professional, skilled and technical occupational clusters. The user is instructed to search the data base in order to obtain the number and percent of the presence of each variable (e.g., number of jobs requiring a verbal Aptitude of 3 or the climbing Physical Demand); a space is provided in the Counselor's Manual for entering this information.

   d. User Groups - The major target group is high school students and their guidance counselors. The system can also be used for adults (see b. above). The system is intended for direct client use as a self-exploration device. Because the printed materials and the program require about an eighth grade reading level, the system cannot be used with persons with limited reading skills. Close interaction between student and counselor is recommended.

2. Hardware

   CHOICES can be operated on a variety of equipment:

   - Apple II Plus/Apple IIe - Two disk drives, 48K RAM, monitor and parallel printer. Requires DOS 3.3.

   - Commodore PET (8032 and 4032 versions) - Two disk drives for single-sided, single- or double-density disks, parallel printer.

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[7] There are several versions of CHOICES, arranged by grade level. Canadian, U.S., Dutch, Swedish, Austrian and Australian versions with appropriate data bases are available. This publication reviewed the U.S. national version of CHOICES for the IBM-PC.

- Commodore C64 - Two disk drives for single-sided, single- or double-density disks and printer. (If using a C64 with 8050 or 4040 disk drives, you will also need a C-LINK or BUSCARD.)
- IBM-PC - Two 320K disk drives, 128K RAM, parallel printer, monitor. Requires DOS 2.1.

No telephone connections are required for CHOICES.

3. Software

a. User Manual - The Counselor's Manual explains the structure and logic of the system in detail, clearly describing where major and minor decision points are in the program, and how these decisions are made. The logic of each topic (see 4b) is described in detail. The manual is organized as follows: structure (parameters of the program, data storage and attributes array), topics and factors (the 16 input variables are defined and described in detail), routes (major options in the program), conversing with CHOICES (ideas for using the system), and living with CHOICES (The reality of the system after the glamour wears off.).

Although the actual operation of the program is left to students, the counselor is expected to know how to operate and use the system. The Counselor's Manual contains instructions to override the program if needed. Detailed instructions are contained in the manual; the student or client receives most instructions from the computer (see 4a). Almost no computer literacy is required by the student or the counselor.

The system's Operations Manual contains detailed instructions for copying disks, using DOS and starting the system.

b. Forms - Student/client data for each topic are entered on a "profile". This profile also contains decision points for selecting the four major options of the system. The back of the profile lists all the variables included for each topic. The client completes this profile as a summary of the decisions he/she made in the process of completing the Guide (see 3C). The completed profile is the primary means of data entry.

There are no forms for case control or case management.

c. Other Software - Besides the Counselor's Manual, the other major piece of software is the 60 page Guide. The Guide is essentially a series of self-assessment exercises on 14 topics (i.e., student profile) with additional information on career identification. This booklet is intended to be used by the student/client as part of a total counseling process. The client reads each topic, completes short attitude scales, assesses his/her Physical Capacities, Aptitudes, etc., against well-defined and easily understood criteria, and then decides on what level of a topic he/she is presently functioning, etc. After each exercise the appropriate level of response for each topic is entered on the profile sheet. Once the level of each variable has been determined, the user completes another section which assesses the importance of that topic. Each variable is then rank ordered in terms of its priority in occupational selection. The remainder of the Guide contains information on the different program options available to the student/client. The Guide requires an estimated eighth grade reading level.

Additional software includes a Master List of Occupations CHOICES, containing the 885 occupations and related titles that are in the data base.

The CHOICES system includes five 5 and 1/4 inch floppy disks--one key disk and four program/data disks. Users are free to copy all but the key disk. This means they can run CHOICES on several computers in the same building at no additional cost.

d. Expendable Supplies - Each student requires one copy of the Guide booklet and a copy of the "profile." No forms are needed for the computer; only paper and ribbon are required.

e. Support Systems - Support at the technical level is provided through a hotline number and/or by writing CSG.

4. Machine Processing

a. Input Procedures - All data are entered on the computer keyboard in response to commands on the monitor. Most data entries are taken from the profile sheet.

b. Data Input - Each user chooses the factors (i.e., topics) on which to base the search; these are selected based on their importance to the client. Thus, a user may enter several topics or only a few critical ones. The program is designed to sort out the topic(s) entered first. CHOICES permits the entry of up to 14 separate topics: six educational levels; 11 Temperaments; nine levels of annual earnings; five levels of the nine Aptitudes measured by the GATB; ten Bi-Polar Interests; increasing, stable or decreasing demand for the job; six Holland Interest Codes; 22 major career fields, based on SOC Codes; 14 physical activities (e.g., lifting, hearing); six classifications of hours of work and travel (e.g., rotating shifts, seasonal); six Environmental Conditions; and six levels of training required, ranging from "up to 3 months" to "over 4 years." For Interests and Temperaments, the client can enter negative as well as positive values. To repeat, the number of topics and their priority is the client's decision. He/she may begin with a few topics and add others as he/she proceeds.

c. User Control - CHOICES provides the user with a wide variety of user controls and options. The four major options (called "routes") are described below. For Explore and Related, the client has control over the: (1) topics on which to base selection, (2) the values of each topic, and (3) the priority of each topic. During the course of each option, the user can add additional topics, delete previously selected topics, or begin the matching again with a new set of values and priorities. In Specific and Compare, the client can request descriptions of any of the 885 occupations in the data base. The four routes are:

- Explore - This is the most basic option, permitting "users to search CHOICES' data files for occupational clusters compatible with their needs, abilities and aspirations." The topics are entered in order of priority and the Explore option searches until it matches on 30 or less occupations; at this point the client can list each occupation selected or enter another topic to reduce the number of clusters.

- Specific - This permits the printing of all descriptive information (e.g., occupation task summary and data on the 14 variables) on a specific occupation. Code numbers taken from the master occupational list booklet are entered to obtain this information.

- Compare - By entering two code numbers, the program will print a side-by-side comparison of two occupations. The information displayed is identical to that provided in the Specific option. Note that the program only lists the variables for each job; it does not provide any information and analysis on their differences.

- Related - In this option the client inputs one occupation and the topics which he/she wants to include in a search for occupations that are related in a variety of ways to the input occupation. The codes and titles of these occupations are listed. The user has the option of changing the base occupation or the topics.

During the Explore and Related options the computer keeps score of the number of occupations remaining after sorting each selected topic. The Counselor's Manual recommends that when the number of clusters decreases to 30 or less, the client should list these selected occupations. When five or less occupations remain, the program will automatically print all remaining jobs. At the end of a session, the computer prints a summary of the options used and the information provided.

d. Processing Sequence and Logic - In the Explore option, each topic is matched against the appropriate attribute in each occupation. The topics with the highest priority are sorted first and, thus, are more critical than lower priority topics. Because of this, the most important topic should be entered first. Within each topic, jobs are selected or rejected based on the process of selecting traits for inclusion that are the same or less than the entered variable. In Interests and Temperaments where a variety of positive or negative traits can be entered, the logic requires that all occupations selected must agree fully with the entered attributes. In the Related option, the program permits "matches" to occur if some variables, such as Aptitudes educational level, are within plus or minus one level of the comparison job. Thus, the basic CHOICES logic is the matching of variables within a given priority using the equal to or less than logic.

The Counselor's Manual takes each topic and presents a full discussion, plus examples of how the program selects each variable.

e. Data Output - The user has no control over the format of the printout; no comments or explanations can be entered. The only client control over the printout is a decision to print the data asked for in the Specific and Compare options. All information that is printed is first displayed on the monitor.

5. Output

a. Format - The computer printout is designed for an 80 column printer using continuous feed paper. The quality of the printout is, of course, dependent upon the type of printer. The report format is informal and is designed for client/student use.

b. Content - The content of the report differs for each option.

- Explore - After the topics are displayed, the user enters the priorities, and upon request, the coded values for each. This process is contained on the printout. The final Explore option output is a list of suggested occupations with their Master List of Occupations identification number.
- Specific - For each occupation code entered, the following information is printed: cluster code and title, task summary, the value of 14 variables (i.e., education, work site, Strength, Temperaments, earnings, Aptitudes, Interests, future outlook, Holland Codes, career fields, physical activities, hours of work, Environmental Conditions and training time) and similar occupations, referenced to the DOT, Occupational Outlook Handbook and The Military Career Guide.
- Compare - The same data displayed in the specific option are placed side-by-side for each pair of jobs compared.
- Related - The selected occupational code and the title are displayed, and the topics for comparison, with their number of clusters, are presented. When requested the final related set of occupations is printed.

6. Relationship to Assessment Devices

The client must enter all data based on the Guide. While the Guide recommends the use of the GATB or DAT to complete the Aptitude section, these are not required for data entry.

7. Training

a. Training Required - A three day training program is required to teach the CHOICES counseling process to counselors. Professional in-service is provided by CSG.

b. Training Available - Training is available through CSG to certify counselors to conduct three day CHOICES basic training in-services.

c. Follow-up - Annual refresher/updating training is provided by CSG as a standard service.

8. Reviewer's Summary and Comments

Unlike many job matching programs, CHOICES is a well-designed total system for vocational exploration. A counselor could use the methods described in the system's literature to establish a practical program for secondary school students, as well as youth in other programs. The Counselor's Manual is extremely well-written and provides highly detailed and yet easily understood explanations on the entire system, especially the logic of selection and operation. The student's Guide enables a young person to logically work his/her way through a complex set of decisions in a simple, rational manner. CHOICES computer programming permits a great deal of real interaction between user and computer and provides enough instructions to permit almost any user to make reasonable decisions. In addition to the excellent manuals, CHOICES is updated yearly; this is a good procedure to keep the system current.

CHOICES can be used by vocational rehabilitation clients with about an eighth grade reading level. The data input factors or topics could be assessed by various tests, etc., and the objective data provided to the client. For clients unable to read, the evaluator could enter the data. One useful feature of the system in vocational rehabilitation is that it permits rather fine breakdown of Physical Limitations.

The major problem with CHOICES is its data base. The data base appears to contain a high percentage of professional, technical and skilled occupations; this plus the reading requirements means that CHOICES cannot be used with lower functioning persons. In conclusion, CHOICES is an exceptionally well designed total system that is responsive to student needs. The software and manuals are well written, easy to understand, and concise; the student Guide is one of the best pieces of self-instructional writing I have ever seen. The weakest part of the system is the data base; the user should be aware of its limitations and use CHOICES as a vocational guidance instrument for literate persons.

9. Address

CHOICES
CSG Careerware
2277 South Washington St.
Suite 209
Alexandria, Virginia 22314

CHOICES
CSG Careerware
955 Green Valley Crescent
Ottawa, Ontario K2C 3V4

10. Cost

CHOICES Software (Please note that the CHOICES software cannot be purchased; it must be leased. This process ensures that the data base will be updated annually.):

	Year 1	Year 2	Year 3
One Year Lease	$1300	$1100	N/A
Three Year Lease	$950	$850	$850

Supporting publications and related items for CHOICES:

Item	Price
Guide	$55.00 per 50 copies
Careers Master List	$9.50 per copy
Colleges Master List	$9.50 per copy
Counselor's Manual	$14.50 per copy
Operations Manual	$3.00 per copy
Demo Guide	$7.50 per copy
Basic Training Manual	$7.50 per copy
A/V Orientation	
1/2 inch VHS or Beta	$25.00 per copy
3/4 inch format	$25.00 per copy
Sound/Slide	$85.00 per copy
Posters	$3.50 per copy

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Computer Assisted Vocational Rehabilitation Counseling Techniques
(VOCOMP)

1. Development

   a. Producer - The system was originally developed by Gary D. Golter and Marjorie Golter of Innovative Software. Additional development and present marketing are done by IntraCorp of Wayne, Pennsylvania.

   b. Purpose - VOCOMP was developed to assist in rehabilitation information handling. It can be used for a variety of purposes, such as direct placement, employability studies, planning training and education, and vocational counseling.

   c. Data Base - There are several separate data bases:

      - The first data base is all the occupational titles in the fourth edition DOT (i.e., 12,098 jobs). Some of the worker trait variables for these jobs have been changed from the DOL data base to reflect more recent job analyses and ideas from the Handbook. The occupational titles are classified into several Worker Trait Groups (also called "Occupational Clusters" [8]); apparently the original classification system was taken from Volume II of the third edition of the Dictionary of Occupational Titles (U.S. Department of Labor, 1965).

      - Local employer data base development is designed on two principles. First, "only jobs with labor market information" are used; this most likely means that only commonly occurring jobs are included. Second, local consumer and business yellow pages, manufacturer's guides, industrial guides are the primary source documents. "Only primary SIC codes are used for each employer... to prevent the occurrence of an employer being listed for a nonhiring job." Employers in these data bases were verified by telephone number and type of employer.

      - Local labor market trends on about 3,500 jobs in each state are the third data base. These data are classified according to Standard Metropolitan Statistical Area (SMSA). Census reports and Employment Service projections are used. Each job is classified as: "(1) expanding - more job openings than people to fill those jobs, (2) Stable - a balance of job openings and people available to fill those jobs, and (3) contracting - more people available to fill jobs than job openings."

      - The entry level wages data base is developed from surveys from the American Management Association and private surveys. Wages are classified as follows: annually, monthly, hourly or minimum wage.

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[8] Occupational clusters are used only for the purpose of accessing the over 12,000 job titles in a systematic fashion for speed. Jobs are grouped into clusters based on physical strength, physical demands and environmental conditions. Based on this, referencing other factors are considered and a job is accepted or rejected based on these other factors.

- The educational data base includes information on the following educational institutions: colleges, universities, regional occupational centers, private vocational schools and CETA's. Individual programs are listed. Jobs having requiring vocational training programs are crosswalked to relevant training programs at local schools.

The user should note that labor market trends, schools and entry level wages are all part of the search criteria. This is different from other job matching systems that search one data base at a time after the client's profile has been entered. All data bases are not available for the entire country. At present data bases are available for most SMSA's in the following states: California, Louisiana, Minnesota, New York, Oregon, Pennsylvania, Texas and Washington.

d. User Groups - Initially developed for rehabilitation counselors, the system is intended for a variety of "vocational rehabilitation practitioners." Designed for the professional only, VOCOMP has been used in a variety of situations: worker's compensation, other insurance litigation, job placement, transfer of skills, and vocational exploration. Like most other systems, VOCOMP usage is not limited to disabled persons. Because of the intermingling of job and educational data bases, the system should be very useful in vocational counseling with high school students and unemployed youth.

2. Hardware Required

VOCOMP is a time sharing system, meaning that users are connected to a central computer source. Through a telephone modem, the computer can be accessed using regular telephone lines. The system requirements are as follows: ASYNC communications VT100/ANSI, compatibility or emulation software, and a 1200 baud modem. The terminal settings are: 8 bit no parity or 7 bit space parity, 1 stop bit, x on/off, and VT100/ANSI emulation. The system is compatible with the following computers: IBM-PC or IBM compatible, any Digital Equipment Corporation computer, Apple IIe or Apple MacIntosh. In addition, the user needs a printer able to handle 132 characters per line, monitor and modem.

3. Software

a. User Manual - The majority of the user's manual deals with the entry of data. After a quick preview of the system, log in procedures are presented; these should be given in greater detail. The basic format of the manual is to present each menu and accompanying screen and to carefully explain the options at this point. The screens are as follows: personal data, job history, training/educational, Physical Capacity, Environmental Conditions, Aptitudes, behavioral characteristics, Interests, define job search, define and select work fields. The manual includes a chapter on report construction and interpretation. There is also a complete explanation of how the system makes decisions and the weights given various factors. Although the step-by-step entry instructions are well-written and easy to use and the interpretation sections of the manual are excellent, some of the other sections of the manual were very confusing.

A training manual is also available. Much of the material is centered on understanding and using the DOT, especially the occupational definition. A brief description of the data bases is included. Another section explains the development of a client profile and data base search strategy. Sample reports and printouts are included. In general, the training manual is easy to use and follow.

The print quality of both review manuals was so poor in many places that some of the reproduced printouts could not be read.

b. Forms - The Client Referral Form is used for mail-in service (and it is assumed, for telephone service). This well-laid out and easy to follow form contains the following sections: referral information, client information, salary requirements, job history, education level, training site preference, Physical Demands, Environmental Conditions, Aptitudes, Temperaments, Bi-Polar Interests, and industrial selection.

c. Other Software - Besides the two manuals and the data entry form, no other software are required.

d. Expendable Supplies - If mail or telephone service is used, the Client Referral Form is needed. When using time sharing only printer paper and ink are required.

e. Support Systems - User support is available free with toll-free access. There are two support groups, one in Philadelphia, Pennsylvania and one in Portland, Oregon.

4. Machine Processing

a. Input Procedures - Cases may be processed in three separate ways: (1) a mail-in form, (2) telephoning the case to the nearest IntraCorp office, and (3) using a computer linked to central program source via a time sharing system. Here, the user initially dials into the data network, gives the appropriate passwords, and then proceeds to enter his/her information through the keyboard. All information is keyed into the terminal or computer in menu options, questions and directions displayed on the screen.

b. Data Input - Data input differs with the two major program options: (1) a job evaluation/full analysis and (2) Automatic Transferable Skills Analysis (ATSA). Data entry for the full analysis is as follows:

- Personal Data - Mandatory data are: city, state, zip code, telephone area code, identification code, local code, and type of analysis code. Optional codes are: name, address, sex and birthdate.
- Vocational Data - Salary requirements and salary variance percentage (if these are left blank, minimum wage will be assigned). The three jobs best representing the client's work history are entered by DOT code and title. If the user does not know the job title, he/she can use the list of various DOT titles, compare their occupational definitions to the client's job and then select the most appropriate title. SVP level, training site preference and GED level are required.
- Physical Capacity - Strength and physical limitations, as defined in the DOT. For physical limitations, mild, moderate, severe and total restrictions

are entered. The usual six DOT Physical Demands factors (see glossary) have been broken down into separate factors.

- Environmental - Restrictions are coded in an either/or manner.

- Aptitudes - There are two methods for entering most aptitude scores: (1) scores from specific tests, such as the GATB and Employee Aptitude Survey, or (2) the five point rating scale.

- Job/Behavior Characteristics - Eleven are entered in an either/or manner. Data entry is related to specific test scores.

- Interests - One of the five Bi-Polar Interest factors are enter for each factor.

c. User Control - The user can select either the job evaluation/full analysis or the automatic transferable skills analysis (ATSA). In the full analysis the user enters most or all of the data listed immediately above. This procedure can be used for persons without a job history or persons who have completed a complete assessment or evaluation. The ATSA is used for clients with a job history; the following are included: personal history, job history, training and educational level, Physical Demands and Environmental Conditions. Because the user can enter Work Fields in the ATSA mode, he/she has some control over the transfer of skills decisions. "However, you may adjust those sections if you have information about the client that is not consistent with the client's past jobs."

Through the entry of zip code, address and telephone area code, the user has de facto control over what data bases are searched. If the user desires he/she can obtain searches of various data bases by entering the same client data with different zip codes, etc.

The user can define the job search by making four separate decisions: (1) The first is to increase the importance of the client's Temperaments data over the Aptitudes; this is useful when the client has a personality or psychological problem that appears to require the presence or absence of specific Temperaments. (2) The user can decide if local labor market information should be required for a job to be selected. (3) The search can be limited to certain specific industries, such as educational, office work, finance or hotel-/restaurant. (4) Finally, the search can be restricted to only manufacturing jobs; some examples are: house furniture, clock and watch, aircraft, and rubber.

d. Processing Sequence and Logic - The following sequence is usually followed when processing a case: (1) Set up the client profile, either by entering a new case or by retrieving a case from the client file; (2) The client profile information is combined with the data bases to produce a skills analysis; (3) the next step is printing the analysis report, this can be printed automatically, and (4) print other supplemental reports.

The VOCOMP system uses a matched percentage between the client's personal traits and the critical and minimal traits associated with specific occupations. The data are combined and compared with the job requirements, and the overqualification, exact qualification, or underqualification is specified by a percentage of over 100%, 100%, and less than 100% respectively. These percentages are determined for the following groups of variables: grade level, vocational training time, Aptitudes, Interests, behavioral (i.e., Temperaments), Physical Capacity, Environmental Restrictions and raw composite. For example, a client who is willing to spend from seven to twelve months in specific vocational training would be over qualified (125%) for a job needing three to six months SVP, qualified (100%) for a job at seven to twelve months SVP, and under qualified (83%) for a job needing one to two years SVP. This matched percentage logic is very clearly explained. The percentages for all variables are used to compute a raw composite score. These percentages are calculated for the various Worker Trait Group classifications.

Specific occupations are selected from the raw composite score. This is determined by ranking the categories based on how difficult it would be for the client to effect a change and by applying increasingly weighted multiples to the percentage match of these categories. These are sorted out first and the client's limitations must match exactly with the job requirements.

Finally, by being able to enter either two or three digit Work Fields, the user has control over the Work Fields entered. This, in effect, gives him/her some control over the transfer of skills programming.

e. Data Output - All results are printed using a standardized format. The user with a personal computer has two options when printing a report. He/she can have the report printed immediately, or he/she can save it on a floppy disk for later printing. Mailed and telephoned-in cases are processed, printed and returned via the mail. There are no differences in content or format for the different data entry methods. The user enters comments on the printout.

5. Output

a. Format - The report is printed in 14 3/4 x 11 inch paper, with 132 characters per line and each page having 66 lines of print. Print is in upper case only. The format is very logical and easy to follow.

b. Content - The typical VOCOMP printout contains:

- Demographic and identification data.
- A listing of the client's vocational choices or transferable skills, with the matched percentage given for the following variables: grade level completed, vocational training time, Aptitudes, Interests, behavioral, Physical Capacity, Environmental Conditions and the raw composite.
- The industry, starting salary, labor market trend, and DOT code for each job are listed as a vocational choice.
- The training opportunities for relevant vocational choices that are closest to the client's home.
- Specific job titles that related to the client's selected occupational groups. The selection of these related jobs is based in 1,700 clusters of closely related jobs. In concept, these clusters are similar to the Worker Trait Groups in the old third edition of the DOT. The following information is

given for each job: industry, starting salary, labor market trend, DOT codes and training opportunities. A cluster raw composite score is also printed.

The printout does not contain the input data, such as Aptitudes, industry choices and training times. However, use of the print screen capabilities of the PC on the summary screen can produce hard copy of this information. There are no explanations of the results on the printout; however, the user's manual and the training manual contain detailed information on interpretation.

Special reports can be generated by directly cross-classifying key fields in the various data bases. For example, all the sedentary jobs within a specific zip code area can be located and printed.

6. Relationship to Assessment Devices

The user is free to code Aptitudes, grade levels, behavioral characteristics and interests from either his/her subjective estimates or to use test results as suggested in the manual. VOCOMP relates commonly used tests to specific variables with the very sound advice that test results are much more accurate than subjective estimates. The GED level can be determined by scores on the Differential Aptitude Test. Raw test scores for the GATB and Employee Aptitude Survey can be entered for Aptitudes. The Temperaments are related to scales on the California Personality Inventory and the Edwards Personal Preference Schedule. Bi-Polar Interests are related to the Holland Vocational Preference Inventory, Career Assessment Inventory and the Strong-Campbell Interest Inventory (see Botterbusch and Michael, 1985 for descriptions of many of these tests).

7. Training

a. Training Required - No training is required prior to purchase or use.

b. Training Available - No information available.

c. Follow-up - No information available.

8. Reviewer's Summary and Comments

VOCOMP is an interactive job matching system that is intended to give its users information on: (1) matching a client's Aptitudes, GED, SVP, etc. with the demands of jobs, (2) relevant labor market conditions and (3) specific sources for training. If the relationship between specific job and the appropriate vocational education is accurate, then this feature is extremely useful. The matched percentage results in the hands of an experienced user are a very powerful counseling tool. The printout is very well organized, but it would be more convenient if it contained a beginning section containing the data entered to create the profile.

The most unique aspects of VOCOMP are the combining of the several data bases into the decision making process and the use of clusters of related jobs. The strength of the system is the logic that permits occupational clusters and individual jobs to be selected even if there is not a perfect match on all variables. This logic runs counter to the mechanistic decisions made using an "either/or" logic. This process more nearly approaches subjective decision making where a counselor balances relative (not absolute) strengths and weaknesses. This process is what Williamson (1986) describes as "fuzzy logic"; this is seen as a strength and not a weakness.

The second unique feature is the occupational clusters. This reviewer has several problems with this approach. The first is that the manual does not fully explain the selection and classification of clusters. Therefore, the user has no information by which to judge the accuracy of the classification process. Second, if these clusters are based on the old Occupational Group Arrangement, then they are primarily arranged around the Data-People-Things hierarchy. Use of only three variables by which to classify occupations is a gross oversimplification. Third, with the use of clusters some of the precision of crosswalks from DOT codes to other data bases is lost.

Finally, there is a question about the degree of accuracy of the transfer of skills process. Both Work Fields and MPSMS are needed for complete transfer of skills, yet the VOCOMP only uses the Work Fields. The second problem with transfer of skills is that if the user selects the Work Field, the process becomes totally dependent on the professional's judgment.

In spite of these problems, VOCOMP is definitely a useful tool for counseling and educational planning.

9. Address

IntraCorp
Chesterbrook Corporate Center
701 Lee Road
Wayne, Pennsylvania 19087

10. Cost

Telephone/Mail in Service - $60.00 per output

Timesharing with user's own computer - $45.00 per output

Timesharing using VOCOMP supplied equipment - $45.00 per output. There is a minimum usage of 10 runs per month, for a total minimum monthly billing of $450.00

Software Purchase - available by request. VOCOMP software runs on various Digital Equipment Corp. hardware and is priced according to hardware and size of database required.

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CompuJOBS

1. Development

   a. Producer - Dr. Stephen W. Thomas, C. R. Thomas and Chris Hargett of United Computers were the developers of the system.

   b. Purpose - According to its manual, CompuJOBS has four purposes: evaluation planning, restricting job searches, rehabilitation planning and reporting. The major function of the system is to select job profiles from a more-or-less specific profile.

   c. Data Base - The system has two data bases: (1) The main data base contains 1,461 jobs from the North Carolina Standard Metropolitan Statistical Analysis of Job Projections to 1990. All job characteristics are taken from the DOT and Classification of Jobs. A comparison of this data base to the DOT revealed that the CompuJOBS data base is a representative sample of the job characteristics specified in the DOT. (2) The user can add up to 250 local jobs to the data base on the data disk. If a larger number of locally available jobs are needed, the user can add an extra disk operating on the same format.

   d. User Groups - This system was apparently developed for a wide variety of users: vocational evaluators, vocational experts and rehabilitation counselors. However, the system is not designed for operation by clients.

2. Hardware Required

   Three versions of the program are available for: (1) IBM-PC and IBM-AT, (2) Apple IIe, and (3) Radio Shack Model III or IV. Each computer needs the following: (1) a minimum of 64K RAM, (2) two disk drives (not required for IBM-AT), (3) monitor, and (4) a printer.

3. Software

   a. User Manual - The manual contains all system details as well as many helpful hints on how to successfully use the various subtle features of the system. The contents of the manual are as follows: (1) detailed instructions on how to operate the computer, (2) how to search for jobs using a specific set of client characteristics, (3) detailed procedures for updating the data base with local jobs, (4) use of the profile function to organize and present client data, and (5) a brief case study. All parts of the manual are well organized and written in easy to understand prose. All options and codes are fully explained. One of the better features of the manual is its explanation of the options and hints on how to use these options with various disability groups. A minimum amount of computer experience is needed to use the profile and job search options; the job listing file update requires somewhat greater attention on the part of the user.

   b. Forms - The only form used is a one-page, mail-in form for those wishing to purchase a search. This form contains the client input variables with some instructions. Some knowledge of U.S. Department of Labor job analysis terminology is needed to complete the form.

c. Other Software - In addition to the manual, the only other software needed is two 5 1/4 inch floppy disks. These operate on: DOS (IBM), TRSDOS (Radio Shack) or AppleSOFT (Apple).

d. Expendable Supplies - The only expendable supplies are printer paper and ribbons.

e. Support Systems - The manual does not mention the availability of either technical or professional support.

4. Machine Processing

a. Input Procedures - All data are entered using a keyboard in response to either questions or a standardized format. A client data sheet is used for mail-in searches.

b. Data Input - Depending on the option selected, there are three types of data input:

- Search for Specific Jobs - The user enters almost any combination of the following variables: Occupational Group Arrangement (i.e., first three numbers of the DOT code), one, two or three of the Data-People-Things codes (i.e., second three numbers of the DOT code), one two, four or six digit GOE Code, Physical Demands, Environmental Conditions, GED, SVP and 11 Aptitudes. After each code is entered, the user selects the search logic for each (see below).

- Update - DOT Code, GOE Code, job title, Physical Demands, Environmentalc Conditions, GED, SVP and Aptitudes are entered.

- Profile - Client demographic data, educational history, employment history with Physical Demands, Environmental Conditions of previous jobs, Aptitudes results are based on previous jobs and/or test results. GED and Aptitude data are displayed graphically. The profile option is not available for the IBM version software.

c. User Control - During the search-for-specific-jobs option, the user has almost complete control over the search variables. This control is exercised in two ways: (1) The user chooses whether or not to enter one, several, or all of the variables described in 4b. For example, a search may be based on GOE Code and Physical Demands, on Aptitudes, Environmental Conditions, or on GED, DPT Code, Physical Demands and SVP. (2) The user selects the level which he/she wants to use as a cutoff. While some other job matching systems offer only "equal or less than logic", CompuJOBS permits the selection of four separate search options for many variables: equal to, greater than, less than, not equal to (or combinations of these). The user has control over the number of jobs printed. In the profile option, the user enters data with the format presented on the screen; the user has no control over the format.

d. Processing - For each search logic, the user selects the logic (i.e., equal to, greater than, less than, not equal to) most of the variables listed in 4b above. For example, a Data-People-Things code of .683 is established as the appropriate functioning level for a person. The user has the option of selecting jobs that are: equal (i.e., all have a .683 code), less than (i.e., all require higher levels than the code .683), greater than (i.e., all jobs require lower levels than .683) or not equal to (i.e., all jobs except .683). While in most cases, with most variables, the user would want to select the "equal to" option in combination with the greater than or less than logic, the user still has the choice of using the four types of logic for most variables. Once the user has selected the number of traits on which to search and the logic for each, the computer program systematically searches the data base for jobs that are within the parameters of the search. In summary, when processing each case, the user selects all the variables, or traits, on which he/she wishes to base the search as well as how those variables will be controlled in that search.

Because the profile option involves only the entry and printing of data, there is no logic associated with this part of the program.

e. Data Output - With the search option, the only user control is to select the number of job matches to be printed. The user has total control over the content of the output. For both options he/she has no control over the format. All final results are printed; no comments can be added by the user.

5. Output

a. Format - The results are printed on an 80 column, 8 1/2 X 11 inch paper in upper case. No explanations of the codes or procedures are given on the printout.

b. Content - A complete printout contains two sections: profile and job search. The profile lists demographical information, occupational group codes, GOE codes, DPT level, Physical Demands, Working Conditions, GED, SVP, and Aptitudes. Most of these summary data are based on previously entered job history. The job search lists the search variables, the search logic and the jobs selected. For each job selected the following information is printed: DOT Code, GOE Code, job title, Physical Demands, Environmental Conditions, GED, SVP and Aptitudes. The content of the printout is aimed at the professional and not at the client; it contains no explanation and does not offer any interpretation of the results. Since the profile and search programs function separately, a printout from both options is not always required.

6. Relationship to Assessment Devices

CompuJOBS is not related to any assessment device or work sample system; no input is needed from any specific assessment device.

7. Training

a. Training Required - Training is not required prior to purchase.

b. Training Available - On a consulting basis.

c. Follow-up - On a consulting basis.

8. Reviewer's Summary and Comments

CompuJOBS is designed for use by the professional evaluator, counselor or vocational expert. The system has three major features. First, it permits the entry of the DPT Codes as a separate variable and permits classification by those codes; this is an important feature for evaluators who use these as a major decision making factor. Second and more important, the system's logic allows not only the selection of variables but also permits the user to select the logic by which these factors will be compared to the data base. The ability of the user to make equal, greater than, less than, or not equal decisions for most variables builds in flexibility in a small computer system. Third, the disk space for developing a local job bank increases the versatility of the system. The reader should note, however, that although the manual suggests the use of the Classification of Jobs and the DOT as the data sources of job factors, job analysis or other data sources could be used.

CompuJOBS has one major problem. The system contains three completely unrelated routines: profile, record updating, and job search. The profile requires the entry of much of the same data that is needed for the job search. Yet, because there is no way to store profile data, data must be reentered for the job search section. Finally, the usefulness of the profile section is open to question. This is only a summary with some elementary manipulation of codes and aptitude scales. The job search profile can function without this option and can be purchased without the profile program at a reduced price.

In conclusion, although the CompuJOBS has one serious problem, the flexibility of the job search option, ability to search by DPT Codes and the availability of extra disk space for the local job market outweigh this problem.

9. Address

CompuJOBS Systems
P.O. Box 3136
Greenville, North Carolina 27836-3136

10. Cost

Price for manual and two 5 1/4 floppy disks:

IBM-PC or IBM-XT	$450.00
TRS-80	$525.00
Apple IIe	$525.00

Note: Profile is not available for the IBM version; the TRS-80 and Apple IIe versions include the profile program. Without the profile, their price is $450.00.

Separate purchase and updated disk prices:

Job matching and update component	$325.00
Client profile (not available for IBM)	$95.00
Data base	$125.00
Job matching and update component and data base	$450.00
Replacement disks for all disks, each	$50.00

Mail-in individual search

One search	$15.00
Two searches with same client	$25.00

11. References

None presently available.

Computerized Career Assessment and Planning Program
(CCAPP)

1. Development

   a. Producer - CCAPP was developed by C. Steven Hyre and Dr. E. Ty Gardner of Jefferson Software, programmed by Julie Margolis.

   b. Purpose - The program and related exercises are designed to provide students with the following information: (1) career interests and ability, (2) what jobs are related to interests and ability, and (3) to help develop an orderly plan to prepare for entry in a career choice, whether further education or direct employment.

   c. Data Base - The data base consists of 1,200 occupational titles from the DOT; these are arranged into 66 clusters by the four digit GOE code (e.g., 01.01 Literary Arts). Although there is no description of the process used to select jobs from the DOT data base, all 1,200 jobs are listed alphabetically in an appendix.

   d. User Groups - CCAPP was designed primarily for high school students. Indeed, some of the wording on the program and item alternatives limit its use to this group. Considerable reading ability is required to use the CCAPP. With the on-screen instructions and explanations containing words like "qualifications," "occupations" and "variation," the potential user should review the program before using it with clients with a low reading level. Although largely self-directed, the assistance of a guidance counselor or other professional is needed. It is useful for career exploration and vocational counseling.

2. Hardware

   Apple II Plus, Apple IIe, Radio Shack TRS-80 Models III and IV, and IBM-PC versions are available. All programs require the following: one disk drive, monitor and printer. The Apple and TRS versions need a minimum of 48K RAM. The IBM version, which requires 128K RAM, will operate on the following models: PC, XT, PC/Jr and AT.

3. Software

   a. User Manual - After giving a brief description of the overall program, the manual lists the steps to be taken and repeats many of the instructions that appear on the monitor. The user is referred to the computer program for further and detailed instructions. The student part of the manual is fairly detailed and very easy to use and understand. No computer literacy is required; the student or other user needs only to know how to insert the disk and turn on the computer.

   b. Forms - No data entry forms are needed. Unlike most programs having specific data entry forms, CCAPP forms are the final result for each module (see below). The forms are well designed and should be easy to follow.

c. Other Software - The system contains four program and four data base 5 1/4 inch floppy disks, one program disk for each module and one for the Career Exploration Module. In order to gain full advantage of the system the following publications are needed for student/client use in completing "assignments" given by the program: Guide for Occupational Exploration, Occupational Outlook Handbook, Dictionary of Occupational Titles, Barron's Profiles of American Colleges, and Lovejoy's Guide to American Colleges.

d. Expendable Supplies - The only supplies needed are paper and ribbon for the printer.

e. Support Systems - No support systems are mentioned in the manual. It is the reviewer's opinion that because of the simplicity of the program and thoroughness of the manual, little, if any support, should be required.

4. Machine Processing

a. Input Procedures - All data are entered using a keyboard in response to a question appearing on the screen. Because most questions have a multiple choice format, no typing skills are needed.

b. Data Input - The following data are entered using the multiple choice format:

- Module 1 Career Assessment - 1 of 12 GOE codes, up to 5 Work Activities (i.e., Bi-Polar Interests), like or dislike for 12 general classifications of school subjects (e.g., Language/English and Distribution Education) and 11 Aptitudes, rated on a four point scale.

- Module 2 Selecting Alternatives - 10 work situations (i.e., Temperaments), Data-People-Things functioning areas, mathematical and language skills (i.e., GED scales for Language and Mathematics), Physical Demands, Environmental Conditions, and Specific Vocational Preparation.

- Module 3 Career Planning - Selects either vocational training, college or job search.

- Career Exploration Module - This is used at two separate points in the program: between Modules 1 and 2, and after Module 2. Between Modules 1 and 2 the user inputs occupational cluster numbers to obtain career information on clusters and to list individual jobs within each cluster. After Module 2 the user inputs individual job codes to obtain information on specific jobs.

c. User Control - Once the Module is selected, the user has no control over program logic. Control, however, is exercised through the entry of variables. During each module, the user is asked a series of questions. After each series he/she has the option to change answers; after some series he/she has the option to start over, ask for more information or leave the program. In the Career Exploration Module, he/she lists either the cluster or job number to obtain occupational information.

d. Processing Sequence and Logic - After the module is selected, the program permits no deviations. Most of the logic centers on the manipulation of the 66 clusters; these are the basis of the system.

c. Data Output - After clusters or individual jobs are selected, the user has no control of output contents or format. After each module is printed, the user is given exercises; these usually involve searching for information in one of the books mentioned above.

5. Output

a. Format - The computer printout requires 8 1/2 x 11 inch paper; continuous feed should be used. The report is in upper case letters only.

b. Content - The content differs with the option:

- Module 1 Career Assessment - Contains verbal (no codes are used) descriptions of traits selected: work areas preferred, work activities preferred, school subjects preferred, and Aptitude ratings for each cluster relating to the variables selected in the first part. The following information is contained for each cluster: number, name, page number in the GOE, and a three point rating scale.

- Module 2 Selecting Alternatives - After listing the cluster numbers previously entered by the client, the printout contains: work situations needed, Data-People-Things, GED, Physical Demands, Environmental Conditions, and SVP. None of these variables are coded; each is described with a term or phrase. The second part of the printout contains specific job titles with the following information: data base reference number, job title, cluster number, DOT code, and page reference in two editions of the Occupational Outlook Handbook.

- Module 3 Career Planning - There is an option for three separate printouts: college, vocational school, and job hunting plan. Each consists of a separate form to be completed by the student.

- Career Exploration Module - This provides the occupations in a cluster, a description of each cluster, and information of each job (i.e., work situations, DPT, GED, work environment, SVP, salary and occupational outlook).

6. Relationship to Assessment Devices

No specific tests, work samples, etc. are recommended or suggested. The data entered is mostly taken from self ratings.

7. Training

a. Training Required - Not mentioned in the manual; assume none.

b. Training Available - Not mentioned in the manual; assume none.

c. Follow-up - Not mentioned in the manual; assume none.

8. Reviewer's Summary and Contents

CCAPP appears to be a well-organized program aimed mostly at high school students. The major advantages are: (1) It gives the user some guidance and help in career planning. (2) Instead of becoming frustrated to try to think of interesting jobs, the computer makes it fun and simple. (3) Each module takes between 30 and 40 minutes. Thus, if the user changes his/her mind he/she can easily redo the process and check into other options. In addition, this time period fits in with most school schedules. A minor problem with the program is inconsistency in response: one time it uses "Y" for "yes" and "N" for "no" and then "A" for "yes" and "B" for "no".

The system has serious problems with the rating scales used. The familiar 11 Aptitudes are rated by the student on a four point rating scale: outstanding, good, average, and difficult. Because there is no rating less than "difficult," a person can rate him/herself in two positive ways (i.e., "outstanding" and "good"), neutral (i.e.,"average"), and one below average ("difficult"). This four point rating system is inconsistent with the DOL data base which rates each Aptitude on a five point scale. Data-People-Things are only rated in a three point scale; the entire seven, nine and eight functions in each hierarchy should have been listed.

Another problem, that is definitely not unique to CCAPP alone, is the reliance on subjective ratings. The program and manual do not require test or other results. The system also lacks sophisticated exercises to determine ratings. A student or other person who is consciously or unconsciously trying to "cheat" could exaggerate or minimize his/her ratings.

Finally, all the exercises given in Module 3 could have been done much cheaper using self-instruction manuals with class discussions. The forms printed in Module 3 could be printed cheaper than by using a computer.

9. Address

Jefferson Software
Systems Software Associates, Inc.
723 Kanawha Boulevard, East
Charleston, West Virginia 25301

10. Cost

The program contains the following:

Manual
Career Directions (Student Instructions)
The following disks:

Career Assessment	1 disk
Selecting Alternatives	1 disk
Career Exploration	1 disk
Career Planning	1 disk
Data Bases	4 disks

Price: $485.00

11. References

Botterbusch, K. F. (1984). Computerized Career Assessment and Planning Program (CCAPP). Vocational Evaluation and Work Adjustment Bulletin, 17(1), p. 24-25.

DataMaster III

1. Development

   a. Producer - The DataMaster III system was developed by Dr. Billy J. McCroskey of Vocationology, Inc., and programed by David Linquist. It is distributed by New Concepts Corp. of Tucson, Arizona.

   b. Purpose - Although not specifically stated in the manual, the purpose of DataMaster III is to provide a job matching system based heavily on the client's employment history. While the program is definitely aimed at disabled adults with a job history, it can be used by persons with no work experience. The system's major purpose, thus, is placement.

   c. Data Base - A separate data base is available for each state; a national data base containing 805 jobs is also available. Unlike many other job matching systems that developed their data bases by sampling DOT, the DataMaster is derived from the "most-frequently-hired-for jobs within a state." Because of this, the data base for each state differs in size, ranging from California with 477 to Arkansas with "less than 100." Most of these data were taken from statistics generated by the U.S. Employment Service. Unfortunately, some of the procedures used to select these data bases are not given.

   These databases were generated from the hiring records of all the Job Services in each state. Every job in which there was at least 1 person placed was included in the final State Job Bank. The DataMaster National Job Bank contains every job for which there was at least 1 hiring in at least 1 state over the course of the year 1983-84.

   The user has the option of expanding this data base to include jobs in the local economy. A maximum of 2250 job profiles can be added if a separate disk is used.

   d. User Groups - The system is designed for use by vocational experts, placement specialists, school counselors, and rehabilitation counselors whose case load is disabled adults with an employment history. DataMaster is not intended for direct client use. Its major use is in worker's compensation, the personal injury field, vocational-technical institutes, and vocational rehabilitation.

2. Hardware Required

   The system is available for the following computers: IBM-AT, IBM-XT, IBM-PC compatible computers; Radio Shack TRS-80 Model 3, 4, or 4-P; and Apple II. Each requires a minimum of two floppy disk drives (or one floppy disk drive and one hard disk), 48K, and a dot matrix printer, such as Epson RX-80, MX-80 or MX-100, Okidata and other parallel printers with condensed (i.e., 16.5 to 17 cpi) print.

3. Software

   a. User manual - DataMaster contains a complete manual. Most instructions are detailed, and explanations of the program logic are included. However, the manual is overly wordy and confusing in some places. Some of the material presented as fact should be labeled opinion. The disk initialization is especially confusing. The manual begins with complex, step-by-step instructions on disk initialization and disk copying. There are six major program options; the manual contains detailed instructions and explanation for all except some of the utility functions. The correction of possible data entry errors are clearly identified. One of the appendices contains a summary of the key steps in various main program options.

b. Forms - The manual contains an "Evaluative Data Profile" that can be used for data entry. Other forms are used for record test scores and to convert these to aptitude ratings.

c. Other Software - The system is sold with one floppy disk. In the initialization process this is copied and placed to three disks: (1) master working copy system, (2) data base disk, and (3) master client reports disk, used for storing client records. In addition, the user must supply an MS-DOS 2.0 or 2.1 disk. The user is encouraged to make back-up copies of the system.

d. Expendable Supplies - The only expendable supplies are printer paper, printer ribbon, and the optional data collection forms, which can be copied locally.

4. Machine Processing

a. Input Procedures - All data are entered using a keyboard in response to commands and "forms" appearing on the screen.

b. Data Input - When selecting the "Run Main Program" option, data entry is as follows: identification information (i.e., client's name, consultant's name, file name and date) are entered first. The client's job history using the full nine digit DOT code for each significant job is entered second. At this point the data base is searched for each entered DOT code. If an entered job is not in the data base, the user has the option of entering the job in the data base. After the DOT codes are entered, the user sets the parameters for the job search; he/she can select the difficulty level (see 4d) and the number of matches required. A composition profile is developed by taking the highest or most desirable traits from the job history. This "High Across Jobs" data can be modified by evaluator input that overrides the job history traits. The evaluator can change the following variables: GED Reasoning, Mathematics and Language; Aptitudes S, P, Q, K, F, M, E and C; Physical Demands, and Environmental Conditions. Intere[illegible]nd Temperament factors are not included in data input.

In other options, the user can reconfigure an already existing client profile; add, edit or delete jobs in the data base; or perform a skills/interest analysis. This analysis consists of setting levels of transferrable skills. The logic used in this process is not explained in the manual.

c. User Control - The user has considerable control over the program and its options. As stated above, he/she can enter the profile data for jobs not in the data base, select the search parameters, establish a client file, and edit previously entered data. There are ten utility programs that permit a fair degree of manipulation of the data base, such as: add a job, delete a job, job bank information, and search for DOT code match.

d. Processing Sequence and Logic - The DataMaster program is a computerized version of the manual job matching system described in The Manual for the McCroskey Vocational Quotient System (McCroskey and Perkins, 1981). The MVQS sequence is as follows:

- The client's job history is entered. The DOT codes and trait values for each job are taken from the Encyclopedia of Job Requirements (McCroskey and Perkins, 1980). The program selects the highest trait for each job in the client's employment history and produces a profile titled "High Across Jobs."
- Based on vocational, medical, etc. information, the user enters the present level of functioning (Called "Evaluation Data") on the printout.
- The program compares the Evaluation Data with the High Across Jobs Data and highlights any differences. The user then selects the final set of traits, the "Comparison Profile." At this point an "Override Profile" containing the Comparison Profile data is presented; the user has a second chance to change the search profile.
- After the final search profile is determined, the program matches this against the data base, using the common "equal to or less than" logic. Thus, the job requirements for each job in the data base must be equal to or less than the traits in the final search profile.
- In addition to this logic, the program will also select on a user established overall level of occupational difficulty (see SVQ below).

There are three unique features in the DataMaster III program logic and operations. First, the program only selects on those traits that are considered critical for job placement: GED, eight Aptitudes, Physical Demands and Environmental Conditions. Although the GOE Code is included in the data base and listed jobs can even be sorted on GOE Code, the program will not select on GOE Codes, Bi-Polar Interests and Temperaments. The Aptitude profile has been shortened; Aptitudes G, V, and N are not considered as separate Aptitudes, but are subsumed by the three GED components: Reasoning, Mathematics and Language.

Second, although based on the DOT data tapes, McCroskey has made considerable changes in the structure of the variables. Aptitude scales are "reversed" so that the higher numbers always represent the higher scores. Reasoning, Mathematics and Language are rated on a seven point scale, instead of the five and six point scales used in the DOT. The DOT data tapes reported Aptitudes ratings in five-point scales; this results in a large middle rating of "3" that accounts for 1/3 of the distribution for a particular aptitude. By splitting this middle third into "high average" and "low average," DataMaster has divided Aptitudes into a six-point scale for purposes of rating people.

Finally, the SVQ scale is a composite difficulty rating or level given to each occupation in the DOT based on a multiple regression study of each trait for each job. In using the DataMaster program, it is possible to establish an SVQ level that will select jobs that are within the client's ability range.

This prevents the selection of jobs for which the client is obviously overqualified.

e. Data Output - The user has limited control over the data output. He/she can select the arrangement of jobs by SVQ, GOE Code or DOT number. When printing job matches, the format varies with the number of jobs selected. The user cannot add comments or explanations to the printout.

5. Output

a. Format - The report can be printed on either 80 or 132 column format, continuous feed paper. All print is in upper case; no explanations are given in the report to help the client or user understand or interpret the results.

b. Content - A typical report contains three sections: (1) demographic information, (2) employment history, and (3) jobs matched. In the 80 column printout the following data are given for each employment history entry and each selected job: DOT code and title, GED, SVQ, and GOE Codes. The 80 column printout does not contain any of the profile data (i.e., High Across Jobs, Evaluation Data, Comparison Data and Override Data). This lack of profile data means that the user has no printout record of the final search profile for his/her client.

6. Relationship to Assessment Devices

Although test scores are not needed to operate the computer program, DataMaster urges the evaluator to administer several tests for each GED function and Aptitude, convert them to General Aptitude Test Battery equivalent percentiles and finally average them. These procedures are necessary before they are converted into a seven point scale for the GED factors and a six point scale for the Aptitudes. Conversion percentiles are available for the following tests: General Aptitude Test Battery, WAIS Full Scale IQ; reading, spelling and mathematics sections of the Wide Range Achievement Test, Bennett Mechanical Comprehension Test; Minnesota Paper Form Board; number and name sections of the Minnesota Clerical Test; all four scores on the Purdue Pegboard; place and turn on the Minnesota Rate of Manipulation Test, and Bennett Hand-Tool Dexterity Test.

7. Training

a. Training Required - No training is required prior to sale.

b. Training Available - No information available.

c. Follow-up - The program contains a telephone number to call for assistance.

8. Reviewer's Summary and Comments

The DataMaster is designed for persons handling disabled adults with a work history. This purpose must be kept in mind when commenting on this job matching system. Interest and Temperament factors are not included because these are simply not considered in disability determination. Based on this purpose, the emphasis of job history is definitely justified. The user has two profiles which are combined to form a final search profile. The data base of the system is also aimed at providing a large number of jobs that are more or less always available in a state labor market. Because the rating scales have been modified, the average client will qualify for a larger percentage of jobs in the data base than if a data base taken from a sample of DOT jobs would have been used. The data base plus the emphasis on constructing a local job bank make the system valuable for worker's compensation, Social Security Disability and personal injury work.

To some extent, the degree of criticism leveled at DataMaster depends largely upon whether the reader agrees with Dr. McCroskey's concepts and his manipulation of the original DOT data base. Unlike many other job matching systems, he went beyond these concepts to offer original ideas. First, the difficulty index assumes that each occupation has an overall degree of complexity of tasks that can be measured by a single number. The factor analyses of the DOT data base by Miller, et al. (1980) reported that 49% of the variance was attributable to what they called job complexity; this finding definitely supports McCroskey's claim. However, until full developmental information on the process of determining the difficulty index has been published, no final decision can be made.

The second problem is the manipulation of the DOT data base per se. Aptitudes G, V, and N are not included because they are almost equivalent to the GED's Reasoning, Mathematics and Language. Once again, Miller et al. (1980) reported high correlations between overall GED and the three cognitive Aptitudes. The ratings of the Aptitudes were changed from a five point to a six point scale and GED ratings from a five or six to a seven point scale. It is difficult to see how this process could be accomplished with only information from the DOT data base; some judgment as to which level would have had to been made by the system's developer. Again, published research of this process could clarify this problem.

The transferrable skills option is never fully explained in the manual. There are no explanations of how this part of the program operates. Because the data base does not contain either Work Fields or MPSMS codes, it is very doubtful whether a true transfer of skills occurs.

One problem is more clerical; the reversal of the weighting system used to assign codes to the eight Aptitudes. Although it makes intuitive sense, these can be very confusing to persons familiar with the DOT system. Finally, the printout should include the profiles developed and used in the search.

The major advantage of the system is the flexibility of its data base. The user has the choice of adding or deleting occupations from the data base and of storing client data. In conclusion, DataMaster appears to be very useful for disabled adults and is an excellent attempt to combine flexibility with a limited, yet critical data base while keeping the entire program usable on a microcomputer.

9. Address

New Concepts Corporation
Singer Career Systems
1161 N. El Dorado Place, Suite 343
Tucson, Arizona 85715

10. Cost

The package includes:

DataMaster III Program Disk
The DataMaster National Job Bank
25 MVQS Vocational Analyses Data Sheets
The Encyclopedia of Job Requirements
DataMaster Manual
The Manual for the McCroskey Vocational Quotient System

The cost is $1099.00 regardless of software used.

State job banks are $300.00 each

11. References

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[9] This original document has been updated and is referenced as follows: McCroskey, B. J. (1986). The encyclopedia of job requirements. Minneapolis, MN: Vocationology, Inc.

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Isabel

1. Development

   a. Producer - The Isabel system grew out of a National Occupational Information Coordinating Committee special grant to the Florida Association of Rehabilitation Facilities to develop a manual system that correlated the physical demands and environmental conditions of specific jobs to adaptive aids. The rights to the computerized system are now owned by the Magellan Corp.

   b. Purpose - Isabel can be used as a vocational evaluation tool, in a company's safety program or to assist in career exploration and job placement processes. Isabel compares a client's physical capacities and environmental tolerances to the physical and environmental demands of a previously selected job, to determine if there are differences between what the client can do and what the job requires, and to locate specific assistive devices that may help the client perform the required demands of the jobs selected.

   c. Data Base - Isabel has two separate data bases. The first data base consists of 150 high demand, high growth jobs. Each job, classified according to DOT title and code, and various job classification codes are contained in the appendix of the manual. A total of 95 separate Physical Demands and Environmental Conditions have been identified for each job. These factors are greatly expanded versions of the usual DOL classifications. For example, Reaching/Handling/Fingering/Feeling is divided into 25 separate factors. The second data base is over 1,000 assistive devices classified according to the specific Physical Demand or Environmental Condition. Each device is fully described.

   d. User Groups - The system is designed for the placement and job modification of physically disabled persons. It is intended to be used jointly by client and counselor. The system has great potential for the worker's compensation and personal injury markets.

2. Hardware Required

   The software will operate on the IBM-XT, IBM-AT and most IBM compatible machines with a double side, double density disk drive. Isabel requires 5 MG of space and the presence of IBM DOS 3.1. The program will run on any parallel printer that has been configured to operate with the IBM or IBM compatible machines. Our program ran very well on an IBM-AT with a Hewlett-Packard Laser Jet Printer.

3. Software

   a. User Manual - The manual is divided into five sections: introduction to the system, philosophy behind the system and how it works, the mechanics of the system, technical details on installation and several appendices containing data base and other technical information. The sections dealing with data entry and case processing are very well written. The manual contains several examples of the computer screens and examples of data entry procedures. Correction features are carefully explained. There is some problem with computer literacy. Because the manual does not contain specific instructions, some experience is needed initially to load the program. Once this is accomplished, the program's help screens and general format make the system fairly user friendly.

b. Forms - A form for recording the client's Physical and Environmental Capacities is provided. The manual strongly suggests that the client and counselor complete this form prior to using the computer.

c. Other Software - The system is on eight floppy disks. A separate manual, the Job Related Physical Capacities System, describes the data collection procedures, contains 110 of the job analyses included in the data base, and lists aids and accommodations for each of the 96 Physical and Environmental Capacities factors. Although no longer available, this large publication provides excellent documentation for the system.

d. Expendable Supplies - Physical capacity forms and printer supplies are the only expendable supplies.

e. Support Systems - A user hotline is available during business hours.

4. Machine Processing

a. Input Procedures - All input is by keyboard in response to the options presented on the screen.

b. Data Input - There are ten data entry and processing steps:[10] (1) Register client. (2) Enter biographical information such as address and disability. (3) Describe client's physical capacity on each of the 95 variables, entering either the maximum number of hours (ranging from none to nine) the person can intermittently perform each function during the working day or "yes" or "no" for some Physical and Environmental Conditions. (4) Select an occupation from the data base by DOT code and title. (5) Compare the client's Physical Capacities to job requirements, Isabel lists the Physical or Environmental factors that might be beyond the client's capacities or tolerances and, thus, would pose difficulties in performing the jobs. (6) Define key words to search for aids and assistive devices pertinent to a requirement. Here you define which key words to use to search for assistive devices. (7) Review available aids that match the key words. This step lists the titles of assistive devices that are related to the factor (step 5) and key word (step 6) that were selected by the user. (8) Select possible aids for the physical requirement being analyzed. The screen contains detailed information on the assistive devices selected in step 7, such as cost, name, company and brief description. (9) Analyze the next requirement; the user repeats steps 5 through 8 for the next factor. (10) Print occupational results for client.

c. User Control - The user has complete control over the process. Although within each step some options differ slightly, there are six response options for each of the ten steps defined above: (1) enter data, (2) correct error, (3) remove client, (4) continue, (5) help, and (6) return to main menu. At the main program level (within certain logical limitations) the user has the option to choose what step he/she would like to move to. Thus, he/she does not have to follow the ten steps in any one sequence. Finally, the user is able to print whatever is on the screen at any one time. This control plus the highly interactive nature of the program provides a very flexible system.

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[10] Because Isabel is an extremely interactive program, the Data Input, User Control and Processing Sequence and Logic sections of the review outline have considerable overlap.

d. Processing Sequence and Logic - The basic processing of a case is outlined in section 4b. The client and counselor should work together to decide the processing sequence.

e. Data Output - All results are displayed on the screen. At any time the user can have the screen display printed. However, often this process results in some redundant information.

5. Output

a. Format - All reports are printed on an 80 column printer. Although the reporting format is easy to read, the physical demand and environmental factors data are not explained in the report. The adaptive aids are, however, described in detail.

b. Content - Although at any time in the program, the user can print whatever is displayed on the screen, the basic format used in Step 10 is as follows: The occupational interview results (short summary report) starts with the date prepared and who prepared it. Next is the client's name followed by registration and biographical data. This is followed by the occupation of interest, the job title and the DOT code. The remainder of the report consists of four columns: (1) physical factors that may give the client difficulty for the specific job; (2) the percentages of workers who stated (during the job analyses studies) that the factor was required and the number of hours it was required; (3) the Physical Demands input for the client on each factor; and (4) examples of tasks that might be expected for this factor. If an adaptive aid was selected for the factor in question, this information is printed after the factor. A brief description of the aid also includes cost and distributor.

6. Relationship to Assessment Devices

Isabel does not require input from any specific device. However, the manual contains a list of work samples and tests that could be used to assess for each of the 95 factors. These are most commonly used tests and commercial work samples. This list is not intended to be inclusive and in many ways appears to be naive.

7. Training

a. Training Required - No training is required prior to purchase.

b. Training Available - Training is available upon request and is strongly recommended in order to avoid misuse of the system.

c. Follow-up - Magellan staff will provide ongoing support and follow-up to purchasers of the system.

8. Reviewer's Summary and Comments

Isabel is very well designed to compare a client's Physical and Environmental Restrictions with the Physical Demands of an occupation of interest. The system locates adaptive aids or assistive devices that may help the client perform the job of interest if there are discrepancies. Two points must be made about Isabel: (1) The system does not match a client's profile against all the jobs in the data base. The user and counselor first decide what job in the data base they want to compare the client's profile against. (2) The manual clearly states that Isabel should be used after the client's interests and aptitudes have been determined, in other words, during the last phases of the evaluation process. The idea of Isabel is not to select a job only on the basis of Physical and Environmental Conditions; it is to check if a desired job meets the client's Physical Demands.

The major feature of Isabel is the data bases. Unlike most other job matching systems that use the standard DOL variables, Isabel developed an original, well-designed, data base. Although small in actual size, the data base rests on carefully developed procedures. The second data base, the adaptive aids, appears to be fairly complete; it is also updated periodically.

Isabel would be very useful as the beginning step in a job modification or placement process with a physically disabled person. Although the system seems to be complicated, the user is in complete control. The system, however, has minor problems. First, the need for a computer with a hard disk will limit its use; this will cut down on its use in smaller rehabilitation facilities. Second, the user should consider the limited data base; it is hoped the Magellan Corp. will both expand Isabel's data base and offer a computer option for the user to enter additional occupations.

In conclusion, Isabel represents a major departure from the use of the DOT and DOL variables as a data base. The system should be very useful in the competitive employment of physically disabled persons.

9. Address

The Magellan Corporation
P.O. Box 10405
Tallahassee, FL 32302

10. Cost

Manual and software are available for $3,800.00. Special rates are available for the purchase of multiple copies.

11. References

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Skurnik, L. S., & Siegel, D. H. (December, 1979). A partially annotated bibliography of job related physical capacities. Miami, FL: Center for Labor Research and Studies, Florida International University.

Job Matching II

1. Development

   a. Producer - Job Matching II is produced and marketed by PREP, Inc. of Trenton, New Jersey. The initial development of the system's concepts are attributed to Dr. Samuel H. Cleff and are reported in a document entitled Project Indianapolis: Patterns of Competence.

   b. Purpose - The system was designed to measure a client's interests based on an assessment of 20 interest factors or dimensions: Correction, Fine Manual, Locomotion, Gross Manual-Independent, Gross Manual-Dependent, Order, Athletic, Utility, Exploration, Management, Persuasion, Physical Service, Attending, Scientific, Technology, Innovation, Verbal Written, Verbal Spoken, Numerical and Clerical. The 20 dimensions fall into three general categories, Information, Social, and Concrete that are roughly equilibrate to Data, People and Things. The results are intended for vocational counseling. These scores are matched against interest patterns for specific occupations and training programs.

   c. Data Base - There are two data bases: (1) A national data base and (2) local data bases containing jobs and training programs. The national job "data base contains generalized profiles of jobs. Each profile was determined from two or more observations of jobs whose skill or activity requirement are quite similar." The manual contains no information on the number of jobs in the national data base nor any description of these characteristics.

      For local jobs, the Job Matching II inventory is completed by the first line supervisor or job incumbent whose responses reflect the job related dimensions which are required. For local training programs, the Job Matching II inventory is completed by the instructor whose responses reflect the job related dimensions which are taught. Local jobs and/or local training programs are entered into the user's own job and/or training program bank by PREP, Inc., or by the user if the QuickScore option is utilized. When the client's Job Matching II inventory is analyzed, his profile is automatically compared with profiles of jobs and/or training programs included in the user's local banks.

      It should be noted that the Job Matching II does not use the DOT factors as a data base.

   d. User Groups - According to the manual, the inventory can be used with the following populations: high school students; special needs students, such as mentally retarded, visually impaired and hearing impaired; displaced workers and retirees. The visual items portray many high school age persons and related activities.

      Although no reading is required to take the AV version, reading is required for the picture book version. No estimate of the reading level is contained in the manuals.

2. Hardware Required

There are two types of administration: (1) using Labelle cartridges and a slide/-tape machine or (2) a book containing color photographs. In the Labelle administration, the 200 items are contained on separate slides with accompanying audio. The directions are contained on a separate cartridge; the items are contained on five additional cartridges. Regardless of the method, each of the 200 hundred items are administered twice: In the Preference section the client answers each item according to how he/she thinks he/she would like to perform the activity. The second time through the same items, the client responds to the items in terms of whether he/she has actually performed the activities (i.e., Experience). These two scores are combined to form a single scale for each of the 20 dimensions when experience levels correlate sufficiently to validate interest patterns. Otherwise, only preferences are used for job matching comparisons.

The interest inventory can be scored by two possible methods. First, the separate answer sheet can be mailed to PREP, Inc. for scoring. Second, a response card containing the items can be scored locally using a cardreader, called a "QuickScore." The following components are needed: a cardreader, computer with monitor and printer. Software is available for various computers; e.g., IBM or IBM compatibles, Apple and TRS-80. Required equipment accessories may include such items as cables, interface cards, C/PM cards, etc., depending on the manufacturer or model of equipment used.

3. Software

a. User Manual - The system contains two manuals. The Instructor's Manual contains complete details on system use, administration and research. This easy-to-read and use manual has the following chapters: definitions of the 20 dimensions of work, components of the system, applications with different populations, adminstration (i.e., general considerations, survey books, and AV cartridges, training programs and job profiling, scoring and interpretation), technical information (i.e., theoretical base, initial development, validation, reliability, score bias studies, response set bias, and development of the Job Matching II). In general, the manual is well organized, containing many examples of completed forms, detailed instructions, and a thorough history of the instrument.

   The QuickScore User's Manual for Job Matching II contains detailed instructions on set up, disk duplication and operation.

b. Forms - There are two separate response forms; one for the QuickScore system and the other for mail-in service. Each of these forms contains room for 400 separate responses. There are also control sheets for mail-in service.

c. Other Software - If the QuickScore option is used, the user must supply his/her own MS-DOS or PC-DOS. With IBM, a single floppy disk is used and with Apple and TRS-80, two floppy disks are used.

d. Expendable Supplies - A separate answer sheet or response card is needed for each client. If the mail-in service is used, a control sheet is needed. If the QuickScore method is used, computer paper and ribbon are also required.

e. Support System - User support is provided by PREP, Inc. staff, who can be contacted either by telephone or mail. Locally, users may contact PREP, Inc. dealers in their geographical area.

4. Machine Processing

a. Input Procedures - The client responds to the four alternative, forced choice, items presented either on the AV screen or test booklet.

b. Data Input - The data entered are responses to the pictured items.

c. User Control - The user has no control over either the administration, scoring or reporting format of the Job Matching II. User control is centered on the data bases against which the client's responses are scored. He/she can decide if the profile is to be scored against the following job classifications: semi-skilled, skilled, technical and/or professional. He/she can also select either local training programs or a local job bank; finally, the results can be related to either Prep Work Samples (Botterbusch, 1986) or local work samples.

d. Processing Sequence and Logic - Each of the 400 (200 preference and 200 experience) items represent one of the 20 dimensions. Scoring ranges from +20 to -20 for each of the 20 dimensions, and these scores form a graphic profile of the client's preferences and experience. If there is a sufficient correlation between the preference and experience profile, the scores are combined into one score for each dimension in the Combination Profile.

e. Data Output - The test administrator has no control over the output. The results are printed in a standard format (see 5a and 5b).

5. Output

a. Format - The report, printed in an 80 column format, contains a narrative report as well as figures containing each scale score.

b. Content - Page one contains a brief description of the philosophy and the processes; the second lists and defines the 20 dimensions or scales listed in 1b above. These are the basis of the report. Pages three and four center around a chart in which all 20 dimensions are classified as "Avoid, Neutral, and Approach." A separate chart is presented for both the preference and experience sections of the inventory.

Page 5 presents the combination of the preference and experience scores on the 20 dimensions, using an "avoid-neutral-approach" graph.[11] This combination profile is compared to job and training profiles in the data base. Page 6 explains the job matches; page 7 presents the best five matches. These are listed in descending order by match score. Each job listed contains the DOT title and code, a brief description of the occupation and the job scores for each dimension. The final page relates the scores to PREP work samples. If local banks are established, there are up to two additional pages, and the client's profile is matched with those of local jobs and/or local training programs in the same manner as with occupations in the national data base.

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[11] The profiles are not combined if they have less than a pre-set level of correlation between them. When this occurs, only the preference scores are used.

6. Relationship to Assessment Devices

The results printout can contain a section relating the scores to appropriate PREP, Inc. and locally developed work samples. These are to be used for occupational exploration and skill testing. However, Job Matching II can be used independent of any test or work sample system.

7. Training

a. Training Required - Although not required, training is strongly recommended.

b. Training Available - A technical training orientation is available for purchasers of Job Matching II at additional cost.

c. Follow-up - Available from Prep, Inc. or local representative.

8. Reviewer's Summary and Comments

Unlike other job matching systems, the Job Matching II does not require the entry of a DOT based profile which is, in turn, compared to one or more data bases. Instead, this system requires that the client complete an interest inventory. These results are compared directly against jobs and/or training programs; this unique feature is what separates the Job Matching from both computer-scored tests and job matching systems.

Job Matching II has several major advantages. First, it attempts to relate interests to the activities required to perform the jobs in the data base. Second, results can either be scored locally or mailed to PREP, Inc. Third, the instrument has been fully developed; the technical section of the manual contains more than adequate research results. This is an important consideration when selecting a testing instrument. Fourth, the user can develop his/her own data base. Fifth, the printout is easy to read and understand.

A major problem with the system is the lack of detailed description of the content and selection methods used to develop the national data base. The manuals contain no detailed information in this area.

There are other minor problems. Although the system can be used with adults, the activities and the visuals portraying these activities appear to contain a disproportionate number of high school aged persons. Some of the items require both high vocabulary and comprehension levels, for example, Item 15 "Look for systematic relationships between people and behavior" and Item 76 "Apply principles to evaluate methods." The items in the picture book are slightly over 2 and 1/4 inches square. Although the reproductions in the review copy were excellent, this small size may present problems for visually disabled persons. There are also some minor discrepancies between the visuals and the verbal descriptions. For example, Item 84 shows a table saw, the narration states: "Tend automatic power saw." The report lists only five jobs; this should be increased to provide the client with more options.

In conclusion, the Job Matching II is a rather unique tool to compare interests to actual occupations. This program could be used primarily with younger persons for occupational exploration; this appears to be the developer's intention.

9. Address

PREP, Inc.
1007 Whitehead Road Ext.
Trenton, NJ 08638

10. Cost

Job Matching Assessment Materials

1. 6 La Belle cartridges	$675.00
2. Book with items in full color	$20.00

Instructor's Manual	$35.00

Processing

1. Response sheets and scoring by Prep, Inc.

a. Per Client	$5.50
b. Training or Job Bank Scoring	$10.00

2. QuickScore (on site)

a. Software (one disk)*	$198.00
b. Card Reader - True Data Micro Mark 1	$975.00
c. Scoring Per Client	$4.50
d. Training or Job Bank Scoring	$10.00

* User must have or purchase computer

11. References

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PREP, Inc. (1976 and 1977). Research reports: Volumes I and 2. Trenton, NJ: Author.

Job Opportunity Based Search
(JOBS)

1. Development

   a. Producer - JOBS was developed by the Train-Ease Corp.

   b. Purpose - According to its manual, JOBS "should provide the user with a systematic method for obtaining information on job titles, employers, jobs, training programs, schools, task descriptions of job titles, and various codes that are related to each job title." In brief, the program permits the user to match a client profile against several data bases. The system has a wide variety of uses.

   c. Data Base - JOBS has several data bases, each is described below:

      - DOT - The entire fourth edition of the Dictionary of Occupational titles and the 1982 DOT Supplement are included. In addition to the usual Worker Trait Profile, the data base contains Work Field and MPSMS codes. The system also contains occupational definitions, arranged in task format, for each job in the DOT and Supplement.

      - Occupational Employment Statistics - This data base is closely related to the DOT data base. It consists of "data on current employment by occupation and industry for non-farm wage and salary workers." Data on 1,700 selected occupations are collected. Presented in OES Codes, these data are cross-walked from DOT codes. The manual contains no information on how recent this data base is or about periodic updates.

      - Training Bank - This data base contains job training programs classified by CIP Code (Classification of Instructional Programs). These are cross-walked to DOT Codes. Schools and their respective separate programs are classified by SIC Codes. Of the 50 general CIP classifications, the JOBS manual appendix includes 17 considered to be especially relevant for vocational training. In this writer's opinion, these selected codes are much more appropriate for vocational training as opposed to college or university education programs. The user develops this data base by entering training information and relevant CIP Code using an established format.

      - Job Bank - This user developed data base contains a standardized format for entering locally available jobs. Company identifying information, DOT title, salary and comments are entered. This data base is searched by DOT code. The user enters data according to a set format.

      - Employer Bank - This file classifies potential employers by SIC codes, which are cross-walked from the DOT codes. Files for specific geographical areas can be purchased from Train-Ease Corp. For example, our review file of the Austin, Texas area contained 13,522 employers classified by SIC code.

      - Client Bank - This locally developed data base contains educational level, transportation, and other critical information, job history, worker trait profile data and GOE interest areas. The user enters data according to a set format.

d. User Groups - Due to its several data bases and general versatility, the system has a wide variety of users: rehabilitation counselors, placement specialists, evaluators, guidance counselors, and vocational experts. Because the system is designed for professional use only, the user must know job analysis and DOT terms and concepts.

2. Hardware Required

The system is designed for IBM-PC and IBM-PC compatible computers. The computer requires 256K RAM and two disk drives (the system will operate with one disk system, but two disks are recommended), a parallel printer with 132 column capability (either in standard or compressed mode) and monitor. The JOBS program is contained on a 33 megabyte hard disk and a control card. The hard disk is attached externally. The system operates on DOS 2.0 or 2.1, 3.0, 3.1, or 3.2.

3. Software

a. User Manual - The user manual is divided into several sections, each corresponding to the main menu selections. The user selects from the main menu and then turns to the corresponding section of the manual. The manual begins with an introduction and then goes into the ten major functions of the main menu. The final section of the manual is a very complete appendix (explaining GOE, SVP, MPSMS, SIC, etc.) and technical information on hard disk and printer set-up.

Each major section takes the user through a series of step-by-step instructions using the following format: (1) overview of the program purpose and process, (2) list of the menu options for that section, (3) step-by-step instruction, (4) an example of the particular functions, and (5) a sample printout. Not all of the program options are covered and there should be more information on changing from one program option to another. There also should be more detailed information on the interaction of the various options with each other. Thus, although the manual appears to be well-organized, it does become confusing at times. The manual requires several close readings before the system can be used. According to the developers, the manual is being rewritten to overcome these problems.

Finally, there is the problem of computer literacy. Although detailed instructions on installing the internal hard disk are provided, some computer experience is needed to install it. Because of its complexity, the user should have training in both job analysis terminology and in computer usage. Several weeks of use will be required before the entire program can be fully mastered.

b. Forms - An optional client data entry form is available; it contains: SVP, GED, Aptitudes, GOE, Strength, Physical Demands, Environmental Conditions, Temperaments and Bi-Polar Interests.

c. Other Software - Besides the manual, form and hard disk, no other software is needed.

d. Expendable Supplies - The JOBS data entry form and paper for the printer are the only expendable supplies.

e. Support Systems - Although no mention of technical or professional support are mentioned, toll-free telephone numbers are contained in the manual.

4 Machine Processing

a. Input Procedures - All data are entered using the keyboard in response to questions, statements, or "forms" to be completed appearing on the screen.

b. Data Input - There are two major types of data input to the system. The first is the client profile used to match client characteristics to various data bases. Second, the user enters, changes or deletes the appropriate information for the different data bases. The data input for the major program options is as follows: Job Search Profile - three types of data, corresponding to search patterns can be entered: (1) Worker Trait Profile consisting of: GED, SVP, Aptitudes, Strength, Physical Demands, Environmental Conditions, Bi-Polar Interests and GOE Interests. (2) Specific information: Occupational Group Arrangement (i.e., OGA, the first three numbers of the DOT code), MPSMS, Work Fields and job titles. (3) The client's job history.

The user has control over data in the following data bases:

- Training Bank - Using a set format, the user enters training institutions and their programs. Several programs can be entered for each institution. The user classifies each program by its CIP code number.

- Job Bank - Employer identifying information, salary and comments are entered. The DOT title or code for each job is entered and the system automatically fills in the DOT Worker Trait Profile for this job. In cases where the DOT does not agree with actual job requirements, this process can be overridden.

- Employer Bank - The user enters potential employers, classified by SIC Code. Already developed employer banks are available from the Train-Ease Corp.

- Client Bank - The user enters demographic data and enters or stores Worker Trait Profile data after a job search.

c. User Control - The system is very flexible, thus, providing the user with almost complete control over program options and data entry. When matching a client profile, the user may enter all or some of the variables listed under "b. Data Input". After searching the DOT data base, he/she can change any search variables and can review the selected jobs and eliminate those not suited. He/she can then match selected jobs against opportunities in the other data bases. All searches can be terminated at any time. The user can enter comments in the report. All files can be reviewed prior to printing. Client data can be stored in the Client Bank and edited or used again. However, in some parts the user cannot go back to former selections and change previously entered variables.

d. Processing Sequence and Logic - The following are the main menu options:

- Job Profile Search of DOT - In a typical case, the user first enters client demographic and Worker Trait Profile data (or recalls it from the Client Bank) and then matches it against the DOT data base. Here the system uses an "equal to or less than" logic. Although this search logic cannot be changed, all data are not required to be entered in order to conduct a search. After a list of jobs has been generated, the user reviews these jobs and selects those to be printed in the final report. If he/she is not familiar with a job, he/she can obtain the occupation definition for review; this definition can also be printed as part of the report. At this point the user can change the client profile and search again. When the final jobs have been selected, the program uses the DOT codes to crosswalk first to the OES Codes and then to the SIC Codes. The SIC Codes for each DOT code are given. The user selects types of establishments from the SIC list. These SIC Codes are used to select potential employers from the employer data base.

- Training Bank Profile Search of DOT - Matches the client to various instructional programs by CIP Code and to related DOT job titles within each program.

- Search Job Bank - Matches a client profile with job openings stored in job bank by tested profile or past job history.

- Description - Provides a description of DOT occupational definitions, Worker Trait Factors, MPSMS Code, Work Field Code, CIP titles and codes, and a listing of potential employers. If the user is not certain of the actual code or title, he/she can enter parts of the title and code from which the program lists options. The description option can be accessed at various points in the program, generally wherever a DOT title and code need to be entered.

- Profile Comparison - Permits "the comparison of a client or student profile with that of a specifically selected job title" and then looks for potential employment using the Employer Bank. This uses the DOT data base.

- Compile Job History - Permits the development of a client profile from job history and then stores it in the client bank.

- Employer Bank Maintenance - Permits the addition, change and/or deletion of employers. Lists employers by SIC, zip codes, and the first eight characters.

- Job Bank Maintenance - The addition, change and/or deletion of job openings. The option also searches the job bank by files in the client bank. Each job can be selectively matched against all clients and a detailed explanation of all data entered.

- Client Bank Maintenance - The addition, change and/or deletion of clients. This provides an alphabetical list of all clients and a detailed explanation of all data entered.

- Auto Score - Transfers SAGE work evaluation system results to the client bank. This permits results from other systems and other data to be transferred to the client bank.

- School Bank Maintenance - The addition, change and/or deletion of educational programs and institutions. This allows the user to obtain a list of programs offered by entering the first ten characteristics.

e. Data Output - The user can view the output on the screen or in print. At any time the user can print whatever is on the screen or store it in the print file for later printing. Limited comments can be added at specified points throughout the program.

5. Output

a. Format - The report is printed on 132 columns, either standard or compressed. Depending on the option selected, data can be explained in the client profile section of the report. In general the report is easy to read and understand.

b. Content - The major part of the printout contains the client profile, containing the following items: GED, Aptitudes, Strength, Physical Demands, Environmental Conditions, Temperaments, Bi-Polar Interests, GOE Interest Codes. Jobs are printed with the following information: DOT title and code, GED, Aptitudes, Physical Demands, Environmental Conditions, Temperaments, Bi-Polar Interests, GOE Interests, and CIP Code and title. Employers are listed by SIC Code, company name, and address. With the exception of the client profile, most information is printed in codes without explanations.

6. Relationship to Assessment Devices

A card reader option can be used to enter and to score SAGE aptitude data (Botterbusch, 1986) directly into the client bank. The JOBS system can be used without this option.

7. Training

a. Training Required - No formal training is required prior to purchase.

b. Training Available - A two day on site training program is recommended. The cost is $500.00 for the first day and $250.00 for the second day. Transportation, room and meals are separate.

c. Follow-up - No follow-up services, except for telephone numbers that are mentioned in the manual.

8. Reviewer's Summary and Comments

JOBS is a complex hard disk program that attempts to provide the professional user with a variety of data bases. By providing the format and/or content of several data bases, the system offers the user the opportunity to develop several local data bases; these are considered necessary for the development of realistic job and training placement.

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The system is versatile. The user can enter a client's profile or select it from the client bank. The profile can be modified at several points during the job matching process. With the client profile in memory, the user can first search for job matches, then search for potential employers, find a specific job in the job bank or search for training programs in specific areas. If the profile compare option is used, the client and counselor can directly and rapidly compare the client's abilities with those required for a specific job. The system, in short, provides the user with a powerful tool for use in placement, training and counseling. The most powerful and flexible use of the system is to run a client bank file against the jobs available in the job bank. The job bank can also be run against all clients with client bank by job or all jobs.

Although the program in general runs smoothly, moving from section to section without much delay, some parts of the program could use some additional defaults. The development of more options for correcting data entry mistakes would also be helpful. The major problems with the system are, however, the manual and the data entry process for the job bank. Parts of the manual are unclear; these result in confusion. The manual contains many grammatical, spelling and formatting mistakes. Although not serious, they detract from the product. The developer is in the process of rewriting the manual to correct these problems.

In summary, the JOBS program is a powerful and versatile tool that should be useful for a variety of job matching uses. The utility of the system, however, depends largely on the ability of the user to understand the DOT and other variables and to create relevant data bases. These problems are in no way unique to the JOBS program.

9. Address

PESCO
21 Paulding Street
Pleasantville, New York 10570

10. Cost

There are three separate packages for the JOBS program:

Package B contains the programs listed below. These are loaded on floppy disk and require transfer to the user's hard disk. Each program can be sold separately.

Job Title Matching System (12,375 job tiles)	$1,500.00
Job Bank Program	$ 485.00
Employer Bank Program	$ 810.00
Training Bank Program	$ 950.00
Client Bank Program	$ 485.00
Package B (includes the above)	$4,230.00

Package D contains the programs listed below, These are loaded on floppy disks and require transfer to the user's hard disk. Each program can be sold separately.

Job Title Matching System	$ 950.00
Job Bank Program	$ 485.00
Employer Bank Program	$ 810.00
Training Bank Program	$ 950.00
Client Bank Program	$ 485.00
Package D (includes the above)	$4,630.00

Package F is a 33 Megabyte hard disk already loaded with the programs listed under Package B. The cost is $9,800.00. There is an IBM-XT version of Package F that does not include the job descriptions; the cost is $4,750.00

11. References

Fry, R. (1983). Job Opportunity Based Search (J.O.B.S.). Vocational Evaluation and Work Adjustment Bulletin, 16(4), 145-146.

Job-Person Matching System (JPMS)

1. Development

   a. Producer - The Job-Person Matching System was developed by Dr. Eugene Perkins of Career Development Specialists.[12]

   b Purpose - The system is intended for various purposes, such as vocational counseling, rehabilitation counseling and vocational exploration. It can be used to combine and summarize data from several sources, such as medical reports, job history, and vocational evaluation.

   c. Data Base - The main data base includes 12,099 DOT titles. There are also a total of 330 separate data bases available, one for each of the Census Bureau's Standard Metropolitan Statistical Areas (SMSA). These are provided to the user. Jobs in this data base can be added to or subtracted from the DOT data base. Values are assigned based on The Encyclopedia of Job Requirements (McCroskey and Perkins, 1980).

   d. User Groups - The Job-Person Matching System is aimed at a wide audience of users. While it is perhaps more useful in disability determination, it is definitely a general purpose system. It can be used by counselors, evaluators, and disability experts. Although not intended for direct client use, higher functioning clients and some students could use it for vocational exploration.

2. Hardware Required

   The system will operate on an IBM-PC, AT or XT with two floppy disk drives, 256K or more or random access memory (RAM), and an 80 column printer. The system is presently being translated so as to work on the Apple II+, IIC and IIE.

3. Software

   a. User Manual - The user manual is printed on 8 1/2 by 11 inch paper. The manual describes how the Job-Person Matching System works, defines and describes the Critical Variable, the Optimum Profile and each of the 51 scales used by JPMS. Numerous examples and illustrations are used including a complete sample case.

   b. Forms - The only form is the "Referral Data Form", used for data entry. There is a separate column on the form for entering data from various sources.

   c. Other Software - The only other software is two floppy disks, one containing the program, the other the data base.

   d. Expendable Supplies - The Referral Data Form, computer ribbon and paper are the only expendable supplies. The Referral Data form can be reproduced locally.

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[12] The Job-Person Matching System is a revised version of the Computerized Career Analysis System (CCAS), reviewed in the first edition of this publication.

e. Support Services - Questions on use are answered either by telephone or mail; there is no specific hotline number.

4. Machine Processing

a. Input Procedures - After recording the information on the Referral Data Form, all data are entered using the computer keyboard.

b. Data Input - The user begins by entering client demographical information. The user next enters the significant work history. After the DOT code for each significant job is entered, the program enters the variables for that job into the calculations. The system will not accept any jobs that are not included in the data base; these can be added by the user.

Evaluation and assessment data are next entered. The system allows for the entry of up to seven sets of evaluation data at one time. This multiple entry allows the combination of data from several different sources. Thus, for a typical case the user will enter a job history in DOT code, evaluation results and medical reports. When entering the evaluation data, the user can specify if the value for each of the 51 variables is critical. The following 51 variables are typed in: Data-People-Things, GED, 11 Aptitudes, Strength, Physical Limitations, Environmental Conditions, Work Activities, Work Situations and SVP. The Job-Person Matching System works best when the user enters two or more sets of data, such as a job history, medical reports, and evaluation results.

c. User Control - The user's major control over the system is the ability to enter several sets of data and to establish which of the 51 variables are critical in job selection. Critical variables are those defined by user as the maximum or minimum value at which the client can function. Any number of variables, from zero to 51, may be identified as critical. However, each additional critical variable adds more constraints to the job search; this results in fewer jobs selected. The user can also select the number of jobs to be printed, up to a maximum of 20. However, there is no user control over the print format. The program basically has two options, searching the data base and storing and editing client records.

d. Processing Sequence and Logic - After all data are entered, the program locates the profile of each job in the job history. It next accepts the evaluation data (from one or several sources) for each of the 51 variables, identifies any critical variable and their respective limits, and then calculates the optimum profile for the client. The calculation of this optimum profile is a combination of two processes: (1) If no critical value has been placed on that variable, the highest value from either job history or evaluation data will be selected. (2) If the variable has been identified as critical, this value will override all other entries. Based on weights derived from a regression analysis, the client's job difficulty level is next calculated. Each job in the data base has its difficulty index as part of its profile and the data base is ordered by difficulty index. Each job that is easier than the difficulty index of the optimal profile is compared to the optimal profile and the job is selected if there is a "match" (the variables which were selected as critical are within the limits set by the user when he/she designated it as critical.) The searching of the data base is repeated until either the number of job recommendations that the user requested is reached or the data base is exhausted.

c. Data Output - All output can be displayed on the screen or printed.

5. Output

a. Format - The report used an 80 column format, continuous feed paper or single sheet paper. The user has no control over the format. The names of all variables included in the report are listed.

b. Content - The main body of the report contains five sections: (1) The job history listed by DOT code and title, the difficulty index and the six digit GOE Code. (2) The single number is the optimum profile difficulty index. (3) Next up to 20 selected jobs are listed by DOT code and title, difficulty index and GOE Code. (4) The evaluation data are listed with a separate column for each source of data (e.g., testing results). Data from work history and other sources are presented together with their values on all 51 variables: DPT, GED, 11 Aptitudes, Strength, Physical Demands, Environmental Conditions, Bi-Polar Interests and Temperaments. The critical values and the optimum profile are identified. (5) Each job recommendation is fully documented on all 51 variables.

6. Relationship to Assessment Devices

The Job-Person Matching System is not related to any work sample system or tests. Data input can be from up to seven different sources.

7. Training

a. Training Required - Training is not required prior to purchase.

b. Training Available - A one day training session is available at the user's site, at a cost of the trainer's expenses and $40.00 per person in groups of from three to ten.

c. Follow-up - This is handled through telephone or mail.

8. Reviewer's Summary and Comments

The Job-Person Matching System has a variety of uses in rehabilitation counseling, vocational evaluation, and guidance counseling. There are no major system options, making the program a straight "profile-in jobs-out" system.

The system has two major advantages: First is the ability of the user to select whether each of the 51 variables is critical or not. This programming gives the system more flexibility and appears to this reviewer as a more realistic reflection of the job placement process. In most placement and career selection, the client has definite limits and beyond that is flexible in many areas. Second is the intriguing concept of the Difficulty Index (which is also a central part of the DataMaster system). This is the idea that each occupation has an overall degree of difficulty in terms of task complexity that can be measured by a single number. This is based on regression equations involving all of the 51 variables. While this concept appears to be sound from a logical point of view as well as from intuition, neither Dr. Perkins nor Dr. McCroskey have published a clear explanation of the logic or research. This criticism also holds true for the Datamaster system. The selection of jobs partially by difficulty index does insure that the client will not be placed in a job that is neither above or too far below his/her present skill level.

The report would be easier to read if the variables were presented with each job rather than separately by column.

The major problem with the system is in the entry of the job history. The program uses a subset of the national job database which approximates the local job situation. This local database must be fine tuned to meet the user's needs and this takes some time. The program will not accept a DOT code entry into the work history that is not represented in the database subset. When this occurs the user can extract the desired file from the national database and store it in the local database. It is then available in the same way as all other jobs.

The final area of difficulty is the data bases. There is no discussion of what criteria, if any, were used to select occupational titles from the census data. The user should be supplied with the basic descriptive statistics for each data base so he/she can estimate the representativeness of the data. Although a data base developed from jobs known to exist as an SMSA has definite advantages, this reviewer is concerned about the degree of "slippage" in crosswalking from census codes to DOT codes.

9. Address

Career Development Specialists
1625 Ninth Avenue, Southeast
St. Cloud, Minnesota 56301

10. Cost

$595.00 - includes manual, program disk and data base of choice.

11. References

Graves, W. H. (1979). Personal considerations in rehabilitation. Mississippi State, MS: Cooperative Extension Center Monograph.

Hanman, P. R. (1951). Physical capacities and job placement. Stockholm, Sweden: Nordisk Rotogravyr.

Knowles, P. S. (1978). The utilization of vocational history in the vocational evaluation process. Unpublished masters research paper, University of Georgia.

McCroskey, B. J. (1980). Multiple regression and frequencies data on USDOL job analysis data. Unpublished research paper, Mississippi State, MS.

McCroskey, B. J. (1980). The McCroskey Vocational Quotient Scale (MVQS), an index to job difficulty/personal capacity. Mississippi State, MS: Author, 1980.

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McCroskey, B. J., & Perkins, E. (1980) The encyclopedia of job requirements. St. Cloud, MN: Vocationology, Inc.

McCroskey, B. J., & Perkins, E. (1981). The manual for the McCroskey Vocational Quotient System. St. Cloud, MN: Vocationology, Inc.

McCroskey, B. J., Wattenbarger, W., Field, T. F., & Sink, J. M. The vocational diagnosis and assessment of residual employability handbook. Athens, GA: Authors.

Reinhardt, B. (May, 1978). A correlation study between jobs recommended for clients and jobs actually held by clients. Unpublished masters research paper, University of Georgia.

Wattenbarger, W. E. (1980). A comparison of three methods of adjudicating claimant eligibility for social security insurance benefits. Dissertation in process at the University of Georgia.

Labor Market Access
(LMA)

1. Development

   a. Producer - Labor Market Access was developed by Elliott and Fitzpatrick, Inc.; it is marketed by Valpar Corp.

   b. Purpose - The system has one major purpose, to determine loss of employability from pre-injury functioning level to post-injury functioning level and the corresponding wage loss. The program provides an estimated number of positions [13] in the national economy to which the client had hypothetical access to both before and after an injury or illness. Based on these data, a percentage of lost access and a dollar amount of lost wages are estimated.

   c. Data Base - Two separate data bases are used for classifying occupations: (1) the entire DOT and the Supplement, for a total of 12,375 occupational definitions and (2) the 503 title Census Codes (see Botterbusch, 1984, pages 85-91). Employment and wage statistics are from two separate sources: (1) A national data base derived from the 1980 census labor market survey of the total number of positions within occupational groups, and (2) the 1984 median weekly wage data. Local data bases are available from the distributor; the system also contains procedures for developing a local data base.

   d. User Groups - Although not specifically stated in the manual, the system is definitely intended for use by vocational experts in forensic rehabilitation.

2. Hardware Required

   According to the manual, the program requires the following: IBM-PC/XT/AT with 256K RAM, two floppy disk drives (or one floppy and one hard disk), and a dot matrix printer. Note that the review copy ran well on an IBM-PC with 192K RAM.

3. Software

   a. User Manual - A small 13 page manual giving most of the system basics is provided. The manual briefly explains all the options for both operating and data base construction and revision. The manual contains no case studies or examples, no specific data entry instructions and no hints for interpreting the results. A more detailed explanation of the data base would be very helpful. Because of this, the user must have a good knowledge of both the DOT and Census data. The manual also contains numerous typing errors.

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[13] The reader should keep in mind that there is a difference between "position", "job" and "occupation". There is one position for "one worker at one establishment", thus, in a national survey there is one position for each employed person in the country. A "job" is a group of very similar positions in one place of business. Finally, an "occupation" is "group of jobs, found at more than one establishment having activities that are identical or related...." (U.S. Department of Labor, 1982, pps. 5-6).

b. Forms - No forms are provided or used. We suggest that the user prepare a client data sheet containing all the variables prior to entry.

c. Other Software - In addition to the manual, there are five floppy disks: program, national data disk, a blank formatted local employer bank, and two program backup disks. The manual contains no information on the use of the backup disks.

d. Expendable Supplies - Continuous feed paper and printer ribbon are the only expendable supplies.

e. Support Systems - No mention of support is made in the manual.

4. Machine Processing

a. Input Procedures - All data are entered on the computer keyboard.

b. Data Input - Because the major purpose of the program is to determine the difference between pre-injury and post-injury functioning, both pre-injury and post-injury data are required. The high and low values for each variable are entered. Thus, there are four separate entries for each variable: pre-injury high level of functioning, pre-injury low level of functioning, post-injury high level of functioning and post-injury low level of functioning.

Each of the two data bases requires somewhat different input variables. When using the Census data base, the following factors are entered: SVP, three GED Factors, Strength and 11 Aptitudes. The DOT data base requires: SVP, three GED Factors, Strength, 11 Aptitudes, five Physical Demands, and seven Environmental Conditions. The user also has the option to search each data base for only one variable, for example all jobs with an SVP of 7.

c. User Control - The user has limited control over the program. First, he/she can select either the DOT or census data base (or local data base if they exist). Second, when entering the worker trait information, he/she can change answers easily; cursor movement can be completely controlled by the user. If the user passes a "page" he/she can return to the previous screen to add, delete or change an answer. Third, within each data base, the user can select male, female or combined statistics as a basis of comparison.

d. Processing Sequence and Logic - Once the data base is selected, the user enters the pre-injury and post-injury ranges for Worker Trait Profile. The program first searches the data base for the matching SVP ranges. The program apparently makes two separate searches of each job in the data base: one with the pre-injury profile range and one with the post-injury range. A pre and post determination of the number of positions in the national economy, the percent of these jobs, and the median weekly wages is calculated from the number of jobs selected under the pre and post conditions.

e. Data Output - All results are printed; no jobs are displayed on the screen. The only user option at this point is to have the jobs matched, printed, and have a largely meaningless bar graph printed. No comments or explanations can be added. The user can stop the printing at any time.

5. Output

   a. Format - The program requires 80 column, continuous feed paper. All output variables are explained. The report is very well designed and easy to read and use.

   b. Content - The report format begins with the client demographic data, such as name and address. It then lists the Client Functioning Summary, containing the pre and post ranges of the variables (i.e., SVP, GED, Strength, Aptitudes, Physical Demands and Working Conditions). The Labor Market Access sections starts with a summary of the Pre-Access, Post-Access, and differences in the number of jobs, the percent of jobs and the average wages; this also contains what data base and set of wage data were used (i.e., male, female or both). The Access Summary is a chart comparing pre-access and post-access findings. It compares the number of positions matched and the percent "of jobs represents access to the labor market. The percentage of difference in jobs represents change in the client's personal access to the labor market" and the median weekly wages. The user has two options: (1) He/she can print an Occupational Access Summary, containing all job matches together with their DOT title and code, SVP, Aptitudes, median wages, etc. (2) He/she can print a bar graph comparing pre-access and post-access loss. The last page of the printout contains a definition of all terms listed (e.g., SVP, GED and Aptitudes).

6. Relationship to Assessment Devices

   LMA is not related to any specific device.

7. Training

   a. Training Required - None

   b. Training Available - None

   c. Follow-up - None

8. Reviewer's Summary and Comments

   The Labor Market Access was designed for the very specific purpose of determining the loss of a person's hypothetical access to the labor market. The basic concept of the system is to compare the number of positions in the national labor force (N = 103,723,103) to which the client had theoretical access before an injury or illness and the theoretical number to which he/she had access to after a traumatic event. The system also reports the percentage of this loss as well as the median weekly wage for pre-injury and post-injury access. These results can be calculated nationally or through available regional data bases. The major decision for purchasing or not purchasing this system does not depend on the data base or the program options; it depends on whether or not you agree with the program's basic concept of hypothetical access to the labor market. Note that the program does not ask for information on actual past employment or wages; it estimates hypothetical past and future access.

   In general the program is well designed, giving the user considerable control over data input. The inclusion of two separate data bases is very useful. The user can first perform a rough estimate with the Census data base and follow that up with a DOT data base search if needed for testimony. The option of developing or purchasing local data bases is a definite positive factor.

The system has some minor problems, however. First a complete search of the DOT data base can take almost 30 minutes. Second, and more serious, the manual is totally inadequate. It lacks detail data entry procedures, examples of results, clear descriptions of the logic involved (this would be very useful in testimony), and any information on interpretation of results. The last problem, really more of a concern, is that the user must update, either by purchase or local efforts, the data base as often as possible.

In conclusion, if the data bases are kept up to date, I would use this program as a part of the complete development of a worker's compensation or personal injury case for testimony. However, this general concept of accessibility to the labor market would have to be supported by other evidence.

9. Address

The system is marketed by:

Valpar International Corp.
P.O. Box 5767
Tucson, Arizona 85703

10. Cost

The system contains a manual and the following five floppy disks: program, national data disk, a blank formatted local employer bank, and two program backup disks. The cost for this package is $795.00

11. References

None presently available.

Occupational Access System
(OASYS)

1. Development

   a. Producer - The Occupational Access System (OASYS) was developed by VERTEK, INC. of Bellevue, Washington.

   b. Purpose - Although OASYS can be used for a variety of purposes, the system is designed for a true transfer of skills analysis. Within this framework, it can be used for placement, career guidance, occupational exploration and applicant-job suitability analysis. The manual states the reason for development was "to provide a foundation upon which knowledge could accumulate, and, through the process, we could come closer to dealing with all the dimensions effecting a client's vocational situation. OASYS is but a first step on a long road" (page 39).

   c. Data Base - The data base consists of 12,375 occupations defined in the DOT and the Supplement. Included in this data base are all the Worker Trait Variables and job classification codes. Special emphasis was paid to include all MPSMS and Work Field Codes, including extended codes. This DOT data base is crosswalked to other data bases: SOC Codes, OES Codes, CIP Codes, Career Information Delivery Systems (CIDS) Codes, Holland Interest Categories, and the Occupational Aptitude Patterns (OAP's) of the General Aptitude Test Battery. The manual states that these data bases are updated as needed.

      At present the system contains no local data bases and no procedures for developing employer files, local job banks and training and/or educational banks. New data bases and appropriate crosswalks are under development.

   d. User Groups - The system is "intended for use by, but not limited to, the following kinds of service delivery professionals:" vocational rehabilitation counselors, career counselors, occupational analysts, insurance claim managers, vocational educators, health practitioners, labor union officials and employers. Because the DOT data base covers the entire range of occupations, the system can be used with almost any population capable of competitive employment.

      The system requires a working knowledge of job analysis methods, and should only be used by professionals.

2. Hardware Required

   OASYS will operate on an IBM-PC or IBM compatible system, using PC-DOS 2.1 or higher, MS-DOS, UNIX and XENIX operating systems. UNIX and XENIX are multi-user operating systems, thus, more than one user can use the OASYS at one time. If an IBM-PC is used, it requires at least the addition of 20 megabytes for storage (the users manual recommends a total disk capacity of over 30 megabytes). This storage capacity can be achieved by adding an internal disk, the addition of an external Winchester hard disk, or using an IBM-AT or a Sperry COMPAQ. In addition to the storage, other specifications for IBM-PC computers include: 256K RAM memory, one 360KB disk drive, serial or parallel printer, and monitor. The critical requirement for the OASYS system is the compatibility at the PC/MS DOS, XENIX and UNIX operating systems.

3. Software

a. User Manual - The manual is very well written, offering clear explanations of all aspects of the system. The manual serves four purposes: (1) describes the data base and the software programs, (2) provides the user with basic "how to" and "why" information, (3) a processing guide to which the user can refer when operating the system, and (4) a source of information for decision making.

The manual contains six sections, each of which is tabbed. The first contains an overview, consisting of definitions and system conventions. The heart of the manual, the second section, is the case processing. Here the basic system logic is explained, step-by-step procedures given and tips of process offered. Section three discusses the data bases. Section four, caveats discusses concerns of the strengths and weaknesses of the DOT and its data base, bringing the user back to reality when using data bases and computerized job matching systems in general. Section five deals with acquisition and installation planning for the system. The sixth section includes appendices containing a sample case and printouts.

Although the manual provides an excellent explanation of the purpose of the system, it lacks the details needed for case processing. There are no step-by-step procedures for case processing.

The OASYS program contains many "Help" screens that display the program options for that specific point.

b. Forms - An optional data entry is available. This contains the following sections: job history, job goal, achievement level, occupational training, skills and abilities, Temperaments, Interests and DPT levels.

c. Other Software - Although only the manual and the program are needed, the developer strongly recommends that each user have a copy of The Handbook for Analyzing Jobs.

d. Expendable Supplies - Computer paper and printer ribbon are the only expendable supplies.

e. Support Systems - VERTEK offers a comprehensive system of support in the following areas: trouble shooting, error correction, custom programming, program modifications, training, consulting and data base updates. When purchasing the system the user can select between three separate support agreements (i.e., continuing, time-material and uncommitted), each of which offers different levels of service.

4. Machine Processing

a. Input Procedures - All data are entered using the keyboard in response to screen-given commands and "forms" to be completed.

b. Data Input - In general data input begins with the client's demographical data. Next the work history is entered. Here the user enters the job title or as much of it as he/she knows; a title search is made for similar occupational titles. The user can also enter MPSMS, Work Field and OGA Codes. Once the work history is compiled and stored, the next step is to search the data base for jobs with varying degrees corresponding to the Work Fields and MPSMS codes.

The user can enter the following Worker Trait Profile information: GED, SVP, Aptitudes, Physical Demands, Temperaments, Environmental Conditions, Bi-Polar Interests. Data-People-Things Codes are also determined by the user. Although the program will operate if some data are not entered (called "wild cards"), VERTEK recommends entering all variables so that the transferability process is not cut short. The system displays definitions on the screen as the corresponding variables are being entered or modified. These complete verbal definitions of all codes, including the MPSMS and Work Fields, are very useful; in addition, they can be printed in the report.

c. User Control - There is basically only one main program option: enter job history, enter Worker Trait Profile information and search the data base, review results, change the search variables and search again. At each step in this sequence, however, the user is given several options. For example, there are nine separate Work Fields and MPSMS search modes to choose from. At almost any time, the user can delete a field, line or job, examine an occupational definition, insert data, modify data, print the results, return to a previous step, and store client records. Although a search sequence is established by the program, the user has considerable control over the program.

d. Processing Sequence and Logic - To understand the OASYS processing, it is first necessary to understand that a "true" transferability of skills analysis can only be based on two job classification systems: MPSMS and Work Fields.[14] In the OASYS process, the most important single step is a careful construction of the client's work history. After all relevant jobs are entered, the system prepares a summary from job history.[15]

After the job history is entered, the computer prepares a summary of the highest variables based on the job history. If desired, the user can search only by using the Work Fields and MPSMS; the user can select from nine major types of searches:

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[14] Because the OASYS system is based on the 1972 Handbook for Analyzing Jobs, the user's manual uses the term "MTEWA" (Materials, Tools, Equipment and Work Aids) instead of "Work Fields". The present publication considers these two terms synonymous.

[15] For transferrable skills relevancy is determined by comparing the SVP for each job held against the number of months the client actually performed the job. If the number of months of work experience exceeds the number of months needed to learn the job, the program alerts the user to this fact; the user can then decide if the job is relevant or not. The reader should note that this logic is not unique to OASYS (See Robinson, 1979).

	MPSMS		
Work Fields	Same	Similar	Not Used
Same	1	3	6
Similar	2	4	8
Not Used	5	7	9

The user can search on just this logic, if, for example, the client has no disability or other changes since his/her last job. At this point, however, he/she can modify the profile developed from the job history. Here he/she enters present functioning levels to form a new worker trait profile.

There are two separate logics. The first is dependent on the selection of the nine Work Fields/MPSMS logics. The data base is first searched according to the selected logic. Second, all jobs selected with the Work Fields/MPSMS logic are then compared to the Worker Trait Profile. Only jobs that have survived this double screening are printed. The common result is a small group of carefully selected occupational titles.

c. Data Output - All output can be printed and/or displayed on the screen. The output can be stored on a disk in ASCII characters for later printing. Although the user has control over some of the contents of the output, there is no control over the format. The user has control over whether or not to print a report.

5. Output

a. Format - The report is printed on an 80 column format. In general the report is easy to read and follow.

b. Content - The final report prints several profiles:

- An ability profile containing the job history profile and adjusted profile. A summary of the adjusted variables is printed with code explanations.
- For each job entered in the client's work history, the following variables are printed: DOT title and code, industrial designation, labor market access codes, SOC Code, Census Code, CIP Code, GED, SVP, Aptitudes, Physical Demands, Environmental Conditions, Temperaments, Bi-Polar Interests (called Cottle Interests), Holland Interest Codes, OAP, Work Fields, MPSMS, and DPT. The user can also print out a complete occupational definition, as contained in the DOT.
- There are two separate printing formats for selected jobs: (1) A single line for each job containing the following: DOT title and code, GED, Physical Demands, Environmental Conditions, SVP, Aptitudes and GOE. (2) A complete profile can be printed for each job selected. The contents and format of this profile are identical to that of the work history profile, described above. As with the work history profile, the occupational description can be added.

These profiles are printed using a mixture of codes and variable names. The user has the option to include the definition of each variable in the report. DOT occupational definitions can also be printed for each job in the work history and each job selected in the job search.

6. Relationship to Assessment Devices

Although the user's manual specifically states that variables entered in the adjusted profile should be derived from testing, medical, work sample and other sources, no specific assessment devices are needed for use.

7. Training

a. Training Required - Training is not required prior to purchase. It is recommended that the user know and understand the DOT and the Handbook for Analyzing Jobs.

b. Training Available - "Two types of training are available: (1) how to use the computer with the application programs and (2) the meaning and significance of data base items and variables. Training sessions can be conducted at VERTEK, or in the customer's offices." Training rates vary with the support service plan selected (see section 3e). Consulting fees, a percentage of this fee, plus travel expenses are charged.

c. Follow-up - A variety of follow-up services are available through the support service plan (see section 3e).

8. Reviewer's Summary and Comments

OASYS is a multi-discipline, multi-population tool. It can be used by many professional groups and can serve many populations, such as disabled, disadvantaged and dislocated workers.

The best single word to describe the OASYS system is "professional." The system is well-designed and intended for professional use. The software and computer logic are very complete. The manual contains several warnings and discussions on the limitations of the system and the problems with the data base. This direct admission of limitations is refreshing after reading numerous other manuals that promise that their systems will do anything except make toast. The system also stresses that the user must be trained in job analysis and DOT concepts. Although it is very possible for a user to enter client data, operate the system and print results, considerable skill and knowledge are needed for deciding what data to be entered, what program options to select and how to interpret the results.

The basis of the system is, of course, the emphasis on transferrable skills. In the reviewer's opinion the only true transferrable skills assessment can be done with Work Fields and MPSMS Codes. The OASYS system uses these two codes, plus SVP, as the basis of their system. This is compared to other systems that claim to perform a transferrable skills analysis, but in reality only compare Worker Trait Profiles to jobs in a data base. Although OASYS uses the Worker Trait Profile, it is only after transferrable skills have been determined. This all means that OASYS is a very powerful tool in Social Security Disability and worker's compensation cases as well as in determining true transferability of skills in other placement and counseling decisions.

There are two serious flaws in the OASYS system. First, the system has only one data base--the DOT. The system would be much improved if the user could develop his/her own job bank, employer bank and/or training bank. Second, the manual does not contain the type of detailed instructions needed to operate a system of such complexity. There are several places in the program where the user can be easily confused by this lack of detailed instructions.

In spite of these flaws, the OASYS system has a definite place among professionals who need a sophisticated job matching system.

9. Address

Mr. Gale G. Gibson
President
VERTEK, Inc.
555 116th Avenue, N.E., Suite 118-A
Bellevue, WA 98004

10. Cost

The price includes single and multi-user versions, the single user versions are as follows:

Description	Price
System A - Without 12,375 job descriptions, MS or PC DOS at Level 3.1 or below. Stand-alone system only processes one case at a time. Does not retain client files. Upgradable to full system and multi-user. No multiple-system discounts.	$2,800.00
Upgrade to System B from System A No multiple system discounts.	$1,850.00
System B - With 12,375 job descriptions, MS or PC DOS at level 3.1 or below. Not in a networked system. No terminals. Processes one case at a time. Retains client files. Upgradable to full system and multi-user. Multiple-system discount applies	$4,450.00

These three systems and the multi-user systems can be upgraded to score and interpret General Aptitude Test Battery scores.

11. References

Connelly, C., & Saxton, S. (1982). How to develop and use labor market information in local occupational program planning. Sacramento, CA: California Occupational Information Coordinating Committee.

National Occupational Information Coordinating Committee. (1982). Vocational preparation and occupations, (third edition). Washington, DC: Author.

U.S. Department of Labor. LMI for private sector planning. Denton, TX: North Texas State University.

Washington State Department of Employment Security. (1986). Occupations in the labor market. Olympia, WA: Author.

ValSEARCH Series of Programs

1. Development

a. Producer - The ValSEARCH series of programs was developed by the Valpar International, Inc.

b. Purpose - Although not stated in the manual, the series has four main purposes: (1) job matching, (2) counseling, (3) education matching and (4) some occupational information. The Valpar job matching software includes four separate, yet related, programs: Job Bank 12,375, Local Job Bank, Employee Talent Bank, and Local Training Bank. Although each of these programs has a different data base, the same basic system logic and options are common to each. Each program matches a client's (i.e., student, disabled worker) characteristics with the demands of a job or training program.

c. Data Base - The data base differs for each program:

- Job Bank 12,375 - The data base is the entire fourth edition (i.e., 12,099 occupations) of the Dictionary of Occupational Titles and the Supplement, together with the worker trait profile for each DOT occupation. Unlike the rest of the programs, the user cannot modify this data base.

- Local Job Bank - A predetermined format is used to enter job openings in the local area. Thus, the user develops his/her own data base. There are two ways to develop this data base: (1) the user can enter data from job analyses or other methods, or (2) he/she can transfer data from any job in the DOT data base (i.e., the Job Bank 12,375) to the Local Job Bank data base. When transferring data from this DOT data base, the user enters the record number and records the information on a transfer disk. This transfer disk in turn places the job variables in the Local Job Bank data base. This flexible data entry process permits the user (at his/her own risk) to develop local data bases from only the DOT. Note that in order to transfer data from the DOT data the user must have the Job Bank 12,375 program. After the data are entered, they are arranged either by DOT code or alphabetically. The IBM program version will hold up to 6,260 jobs; the Apple 3,132.

- Employee Talent Bank - This program is basically the opposite of the Local Job Bank; in the Employee Talent Bank data base are records of persons looking for employment. These records are matched against the job requirements for a specific job. Up to 600 client profiles can be housed on the Apple data disk and 1,200 on the IBM version.

- Local Training Bank - This data base holds information on technical and business schools, colleges, etc. The user develops this data base from local resources and enters this information in response to the format on the screen. The data base format holds up to 800 training profiles for the Apple and 1,600 for the IBM.

d. User Groups - The series of programs can be used by vocational evaluators, rehabilitation counselors, guidance counselors, personnel managers and vocational experts. Although the system has a very wide variety of uses, it is, however, not designed for direct client use.

2. Hardware Required

Two versions of the system are available:

- IBM-PC and IBM-XT - IBM-PC requires 128K RAM, two disk drives, and an 80 column printer. The software will also operate on the IBM-XT.

- Apple II, Apple II+ and Apple IIe - Requires an Advanced Logic System Z-Engine card, two disk drives and an 80 column printer. The Apple II+ computer requires an extra 16K.

Although the various components of the series will operate on computers with one disk drive, two disk drive equipment is strongly recommended.

3. Software

a. User Manual - The system contains a step-by-step user manual for each program in the series. Each manual contains most system details. Because these four programs share the same logic and many of the same procedures, there is considerable overlap in the contents of the four manuals. The manuals explain the data entry methods, search logic, operation procedures, copying disks and report writing. There is an appendix containing the variables entered in the Worker Trait Profile. Several examples of the computer generated reports are provided. Because of the detailed instructions, little or no computer literacy is required. Although generally easy to understand, the manuals have one weakness: there should be examples of the use of the compare logic (see 4c. below). The manuals for the Local Job Bank, the Employee Talent Bank and the Local Training Bank all contain very detailed instructions for data base entry and development.

b. Forms - Three of the programs use forms for recording data for entry into their data bases:

   - Local Job Bank - Local Job Bank Profile Guide, contains entry for the following Worker Trait Variables: DPT, GOE, Physical Demands, GED, SVP, Aptitudes, Bi-Polar Interests, and Temperaments. The user can enter one code for each of the following: MPSMS, SOC Codes, Industrial Designation, Work Field, and three levels of CIP.

   - Employee Talent Bank - Employee Talent Bank Profile Guide, contains entry for the following variables: DPT, GOE, Physical Demands, GED, SVP, Aptitudes, Bi-Polar Interests, Temperaments, MPSMS, SOC Codes, Industrial Designation, Work Field and three levels of CIP.

   - Local Training Bank - Local Training Bank Profile Guide, contains entry for the following variables: DPT, GOE, Physical Demands, GED, SVP, Aptitudes, Bi-Polar Interests, Temperaments, MPSMS, SOC Codes, Industrial Designation, Work Field and three levels of CIP.

Each form can either be used to enter data on the client or on a job or training position. Except for identifying information, the three forms are the same.

c. Other Software - The only other software besides the manuals and forms are the following floppy disks:

  - Job Bank 12,375 - IBM three disks, Apple six disks.
  - Local Job Bank - IBM and Apple four disks.
  - Employee Talent Bank - IBM and Apple three disks.
  - Local Training Bank - IBM and Apple three disks.

d. Expendable Supplies - Each of the Series requires continuous feed or single sheet paper for the printer. Three of the programs require specific forms.

e. Support Systems - Telephone support is available.

4. Machine Processing

a. Input Procedures - All client and job/training data are entered on the keyboard in response to screen displays.

b. Data Input - For both searches and building data bases, each of the four programs requires the user to enter any combination of the following worker trait variables: three GED factors, seven Environmental Conditions, 11 Aptitudes, SVP, ten Temperaments, D-P-T, Bi-Polar Interests and GOE Interests. The range and the comparison value for each variable are given on the monitor. If the user chooses not to enter a client or job search variable, it is not considered in the data base search. If desired, the user can enter the following job classification codes: MPSMS, SOC Codes, Industrial Designation, Work Field and three levels of CIP. Likewise, when entering information into data bases, not all variables must be entered. The Job Bank 12,375 and the Local Job Bank require only the entry of these variables, the Local Training Bank and the Employee Talent Bank require these same variables, plus additional factors.

The Local Training Bank allows for the entry of several other factors: duration of program, cost of program/tuition, months of related work experience, location code, day or night classes, certificate or degree, H.S. diploma/-GED required, handicapped accessible, special testing programs, special equipment required or available, transportation required or available, payment plans available, financial aid, housing accommodations, child care available and placement assistance. There are also two continuous fields and two binary fields for the user to add extra information.

Several other factors can be entered in the Employment Talent Bank: union, licensing/bonding, sex, shift work, provide own tools, willing to relocate, transportation available, willing to travel, child care, temporary, JTPA, job targeted for tax credit, hire date, date of birth and monthly pay. There are also two continuous fields and two binary fields for the user to add extra information.

c. User Control - The user has considerable control over the program options. During searches of the data bases, this control is exercised in the following ways: (1) He/she controls the inclusion of all variables; therefore, the program can be run with missing data. (2) He/she controls the search logic (called the "compare method") used for each variable. All variables are preset with one of two logics: (1) equal to or less than, or (2) include/do not include/don't care.

Although each method cannot be used with each variable, the compare method offers seven possible decision making methods: equal to or less than, equal to, greater than or equal to, less than, greater than, a range of variables, and don't care. Because "it allows to neutralize some factors while establishing compare levels for others," the "don't care" comparison method is important. In effect, this logic says that you do not care if the value matches or not. This is very useful when a variable is not critical or when a variable should not be used, such as not entering interests and temperaments in a Social Security Disability case. There are also two special commands to stop the program at any point and then back-up to the next screen.

There are two major methods for searching the data base. The first compares the client profile to the occupations in the data base. In the second the user searches the same data base to determine the 75 most compatible jobs (i.e., those not selected using method one). In the Local Job Bank the user can require a specific profile equal to only one job in the data base; this is supposed to allow for a transferable skill analysis.

The Job Bank 12,375 comes with the entire DOT as a data base, for the other three programs in the series, the user has complete control over data base entries.

d. Processing Sequence and Logic - The sequence and logic are the same for each program in the series. In a typical case, the user enters the variables and the program operates on the preset "equal to or less than" or the "don't care" logics. The user has the option of entering a separate logic for each variable (see above). Because the data bases are arranged in descending order by Aptitudes G, V, and N and the GED Reasoning factor, the system always begins with jobs or training positions having the highest overall functioning for which the person is qualified. The program continues until either the entire data base is searched or until a total of 75 jobs/training programs/persons have been selected. If more than 75 occupations/training programs are found, the user can end the search or start with a second 75 occupations. By arranging the data base by these four cognitive factors and limiting the search to 75 job matches, the program avoids printing out occupational profiles for which the client is obviously over-qualified.

When finding compatible jobs/training programs, the compare method for continuous variables is set to "less than or equal to." The program determines the Job Compatibility Score by assigning one point for each variable within each job that differs from the entered profile. For example, if the Numerical Aptitude value of "3" is entered, occupations with a "4" for this value would be assigned one point.

The manual contains a very adequate explanation of the logic used in the system, including a flow chart of the overall system logic. The manual gives many helpful hints on system use as related to system structure.

e. Data Output - There are two sources of output: monitor display and print copy. There is a choice of several report formats (see 5b. below).

5. Output

a. Format - All report formats are printed on 80 column paper. Each format is very easy to follow and read.

b. Content - Each of the programs has its own reporting format, the reports have many common aspects.

- Job Bank 12,375 and Local Job Bank - These two programs have five reporting formats: (1) a Client Profile, (2) Short Form, (3) Job Record, (4) Job Record, 1 Page, and (5) Job/Profile Comparison. The Client Profile contains the usual demographic information and the values and the logic for each variable entered. The Short Form contains: DOT number and title, GED, Aptitudes and the record number of the job in the data base. The Job Record and the Job Record, 1 page contain the following data for each selected occupation: DOT title and code, ValSEARCH record number, GED, Environmental Conditions, Aptitudes, SVP, Temperaments, D-P-T, Bi-Polar Interests, and GOE Codes. For each variable the Job/Profile Comparison contains the following items: job value, the client profile value, and the difference between the two.

- Employee Talent Bank - This contains four report options: (1) a listing of all clients who match the job/training profile including name, address, telephone number and record number, (2) a client profile containing all variables, (3) a comparison between the client's profile and the job/training report, and (4) a profile containing all the variables in the data record (i.e., see immediately above).

- Local Training Bank - This contains four report options: (1) a listing of names, addresses and the titles of the training programs that match the client's profile, (2) a training program profile containing all variables (i.e., the Worker Trait Profile and the school characteristics), (3) a comparison between the training program's profile and the client's profile, and (4) a profile containing all the variables in the client's file.

For the Job Compatibility option, the program prints the rank of each job, the data base record, and the Job Compatibility Score. For each of the 75 closest occupations, the variables having different values are presented.

6. Relationship to Assessment Devices

Although the manufacturer suggests that "the values for the variable be obtained from the MESA, Valpar Component Work Samples, and/or other vocational evaluation testing ...," the system does not require data input from any specific source.

7. Training

a. Training Required - Not required.

b. Training Available - No mention of training is made in the manual.

c. Follow-up - No mention of follow-up services is made.

8. Reviewer's Summary and Comments

The ValSEARCH programs are a very flexible system using both the DOT and/or local information as a data base. The major advantages of the system center on the user's control of both the input variables and the selection logic. Through this control, he/she can enter a complete array of variables or only one or two. The selection logic makes it possible to select jobs that cluster around a specific level of ability or aptitudes, such as selecting jobs with GED values ranging between 3 and 4. Finally, the selection of occupations in descending order by cognitive factors and the limit of 75 jobs, avoids the same problem of a system selecting several hundred jobs for a person with a high qualifications profile. The user also has the advantage of selecting several different types of report formats. Finally, the job compatibility program offers a valuable counseling tool.

Although they can be purchased as separate units, most evaluators will want to start with the Job Bank 12,375 and the Local Job Bank. These two programs provide the basis for developing a very extensive local data base. The other two programs could be added as the need arises.

The system has one problem. This is the rather obtuse method for obtaining a transferrable skills analysis. In reality, this is only a close match by Aptitudes, GED and other variables. Because it does not first include both Work Fields and MPSMS, it should be carefully used for a transferrable skills analysis. There is the relative minor, but nagging problem of a lack of examples on the use of the various logics used in the system.

When the entire series of four programs is used, there is no direct method of transferring client information from one program to another. Client data must be reentered every time a different program is used.

In conclusion, this series of four programs offers a very complete package to the average user. The systems are easy to use and understand, and if one avoids the transferrable skills problems, they are one of the best overall systems available today.

9. Address

Valpar International Corp.
P.O. Box 5767
Tucson, Arizona 85703

10. Cost

ValSEARCH Job Bank 12,375 - Manual, program and data disks, and cross-reference of DOT numbers to file job numbers.

IBM Version - $1,250.00
Apple Version - $1,250.00

ValSEARCH Local Job Bank - Manual, program and data disks, and 30 Local Job Bank Profile Guides.

IBM Version - $475.00
Apple Version - $475.00

ValSEARCH Employee Talent Bank - Manual, program and data disks and 50 Employee Talent Bank Profile Guides.

IBM Version - $475.00
Apple Version - $475.00

ValSEARCH Training Bank - Manual, program and data disks and 50 Local Training Bank Profile Guides.

IBM Version - $475.00
Apple Version - $475.00

11. References

None presently available.

Vocational Adjudicative Rehabilitation System
(VARS)

1. Development

   a. Producer - The VARS system was developed by Mr. George M. Watters, and is produced and marketed by Ability Information Systems of Spokane, Washington.

   b. Purpose - The VARS is designed for the adjudication of Social Security Disability Determination Insurance cases, under both Title II and Title XVI of the Social Security Act. VARS is a computerized version of the sequential evaluation process prescribed by SSA in various documents (e.g., Social Security Administration, 1984). Because of its transfer of skills features, VARS has limited use in other disability determination litigation, such as worker's compensation and personal injury.

   c. Data Base - Although not specified in the manual, the system apparently has the following data bases:

      - The entire fourth edition of the DOT and the Supplement with a total of 12,275 occupational definitions. This data base contains all of the job and worker classification codes as well as the narrative descriptions for all the occupational definitions in the DOT and Supplement.

      - An Extended Title File that contains 32,288 alternative job titles for the DOT data base. These titles are linked to the 12,275 base titles in the DOT data base.

      - Occupational Employment Survey (OES) national employment statistics. The OES files are organized according to SIC. For each SIC code, the OES data base lists the actual number employed in 1982 and the projected employment in 1995. Regional OES information is available for eight states.

      - There is also a claimant bank available to store basic claimant information so that a case can be easily retrieved and reprocessed at a later date. Stored information can also be saved in a format that is retrievable from the VIPS program.

   d. User Groups - The system is designed for the professional extensively involved with disability determination. VARS would be useful for the vocational expert, attorney and vocational evaluator. The system was initially designed for and field tested in state Disability Determination Units. The system should be used by persons having both vocational knowledge and knowledge of the Social Security Administration's disability determination process.

2. Hardware

AIS has traditionally been available on a timesharing basis, but is also available to larger organizations on a site license/flat fee basis. AIS can also sell/lease the minicomputing equipment needed for these larger installations.

On a timesharing basis, a smaller user needs a terminal or communicating microcomputer, a 1200 bps (baud) modem, a printer and monitor. Through the modem, a user can dial a local Tymnet phone number or call AIS directly. Tymnet is like a MCI or Sprint service, only strictly for long distance computer data transmission. It is used to reduce the telecommunications expense. Communications protocol is: 1200 bps, asynchronous, 7 bit, 1 stop bit, even parity, full duplex, enable auto feed line, and 24 line by 80 column monitor display.

For larger installations with a local minicomputer, AIS will recommend and install the necessary hardware that fits the customer's networking needs. This kind of installation will be highly site specific but will maximize the opportunity for information networking. Some of the minicomputers capable of running this AIS software are "office environment" style and do not have to be housed in a special computer room.

3. Software

a. User Manual - VARS includes a complete manual of operating instructions. The following chapter headings are included: general procedures, print file procedures, case processing, entering medical limitations, eligibility determination, entering and modifying tests, change a nonstandard job, and other options. VARS begins with a main menu, each command corresponding to a section of the manual. After selecting from the main menu, the program moves to various secondary menus. Most of the manual explains these secondary menus. Explanations are for the most part complete and occur in a logical sequence. The menu contains many examples taken from reports and screen displays; these are very useful. Although the manual is rather complex and confusing in places, this is more a reflection on the disability determination process and not on AIS.

Like the other AIS product, VIPS, the major problem with the manual is that it contains no information on the history and the use of the system. Necessary background information is contained in the Code of Federal Regulations, Social Security ratings, and Program Operation Manual System (POMS). Unlike most other manuals, there is no information on how to use the system to solve various problems and little explanation on the various codes and data bases. It is almost as if the present manual was printed without several introductory chapters or explaining appendices.

b. Forms - No forms are needed for data entry.

c. Other Software - No other software besides the manual is needed.

d. Expendable Supplies - The only expendable supplies are printer paper and ribbon.

e. Support Systems - Ability Information Systems maintains a "hotline" telephone service designed to answer technical questions. The system also has many "HELP" commands that answer many questions.

4. Machine Processing

a. Input Procedures - All data are entered using a personal computer or dumb terminal connected to the central program source when the AIS computer in

Spokane is used. The user initially dials into the telephone network and then proceeds to enter his/her information through the keyboard. All information is keyed into the terminal or computer in menu options, questions and directions displayed on the screen.

b. Data Input - The claimant's demographical information, age and education are entered first. The past relevant work history is next entered either by entering the DOT title or DOT code. If the user does not know the job title, he/she can list DOT titles, compare their occupational definitions to the client's job and then select the most appropriate title. If a job is entered that does not exist in the DOT data base, the user can modify the job description and profile of the closest DOT job to fit the claimant's actual past position. After the job history is entered a summary of all data entered up to this point is displayed. At this point the user can adjust this profile to reflect changes derived from medical, vocational evaluation, and/or other data. Depending on the program option selected, the user has the option to change a wide variety of job and worker classification codes: Physical Demands, GED, Aptitudes, SVP, Temperaments, Interests, Environmental Conditions, Work Fields and MPSMS Codes. He/she can also enter mental impairments; these are based on the Mental Residual Functional Capacity Assessment form (SSA Form 4734-F4-SUP, 8/85). Finally, after the program has reached a decision, the user can override this decision and enter his/her own decision and justification.

c. User Control - The user has limited control over the VARS program. Although he/she can select the major program options, in most cases processing is done using the five step sequence described below. The reader should remember that this limited control is built into the Social Security Disability determination process.

d. Processing Sequence and Logic - The system provides the user with a logical system for inputting and evaluating the four basic parameters in disability determination: age, education, relevant job history for the last 15 years and medical and/or psychological restrictions. The system has five major steps, with the fourth step being the most complex. The reader should fully realize that this program is basically a computerized decision making program based on the sequential evaluation process used in Social Security Disability Insurance determination. The five steps are as follows:

  - The claimant's identification information, age and formal education are entered. Age is classified by the program into four categories (young worker, closely approaching advanced age, advanced age, and closely approaching retirement age). (The educational level can be adjusted either up or down to reflect the claimant's present level of functioning.

  - The past relevant work history are entered. Each job is matched against its DOT counterpart, and the SVP for each job is compared to the length of time this job was held by the claimant. If a job in the claimant's employment history cannot be matched with a DOT occupational definition, a "nonstandard" job can be entered. This is done by taking the closest relevant DOT job and changing the description and job classification codes. At this point a summary is printed; after review the user can revise age, education and job history. The profile is compared to the various data bases.

- The medical and/or psychological restrictions (RFC's) are entered. There are seven major classifications of medical conditions: exertional (e.g., light), climbing/balancing, body posture restrictions (e.g., stooping), upper extremity impairment (e.g., reaching), sensory impairment, seizure and/or labyrinthine-vestibular disorder, Environmental Restrictions, and expanded restrictions (i.e., the 28 Physical Demands in the Guide). Each of these seven major restrictions is, in turn, composed of several refinements. For example, sensory impairment breaks down into the following categories: talking, hearing, color vision, depth perception, close vision, far vision, other visual restrictions, and tactile senses. Mental impairments follow the Mental Residual Functional Capacity Assessment Form (SSA-4734-F4-SUP)[16]. The four major areas of restrictions are: understanding and memory, sustained concentration and persistence, social interaction, and adaptation. Like the medical impairments, each of these areas breaks down into several sub-classifications.

- At this point the program makes an eligibility determination; there are nine main steps: (1) check specific rules applying to a person with no work history, (2) check special medical/vocational limitations, (3) determine if claimant can perform any job in the past relevant work history, (4) check for arduous unskilled work history, (5) for persons with semi-skilled or skilled work history, search DOT for transferable occupations, (6) Provide user with ability to evaluate DOT jobs selected, (7) check for 30 years in one field of work, (8) check the vocational rules that may apply, and (9) for persons with nonexertional impairments, search the DOT for unskilled occupations.

- The case decision (i.e., disabled or not disabled) is displayed. If the user does not agree with the VARS's decision, he/she can enter his/her own decision with a written justification.

e. Data Output - The user has limited control over the printout contents. The user can add comments and detailed explanations of why decisions were made and why adjustments were made. The user with a personal computer has two options when printing a report. He/she can have the report printed immediately, or he/she can have it saved on a floppy disk for later printing. On a minicomputer, the report can be "spooled" to a printer to allow the user to immediately go on to another case. In either situation, the user can choose a report style (coded "short-hand" vs. detailed "long-hand") or even modify how much or how little detail is obtained for each report.

5. Output

a. Format - The appearance of the report is dependent upon the quality of the printer. The final report can be printed on 8 1/2 by 11 inch paper, with space for the user's letterhead.

b. Content - The typical printout contains the following major sections: (1) identifying information, (2) age, (3) education, (4) past relevant work experience, (5) vocational factors summary, (6) summary of medical/vocational restrictions, (7) comparison of current abilities past relevant work, (8) skilled jobs searched and job selected, with OES statistics, (9) unskilled jobs searched, and (10) the disability decision. Very few codes are used; most variables, decision points and results are listed.

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[16] At this point VARS program apparently is based on a revised POMS Section TO0401.607, issued in September, 1985.

These results are intended to be interpreted within the strict rules and policies used to determine Social Security Disability. The manual contains no information on how to interpret the results; these are left to the discretion of the user. There is little unnecessary information in the report.

6. Relationship to Assessment Devices

VARS has no direct or indirect relationship to any assessment system or process, either medical, psychological or vocational. However, it follows closely the residual functional capacity forms outlined by the Social Security Administration.

7. Training

a. Training Required - No training is required prior to sale.

b. Training Available - Classes are available in Spokane and at selected sites by arrangement.

c. Follow-up - Follow-up training is available upon arrangement with AIS, there are two sources of continuing information. First, a hotline number for technical services. Second, new procedures and changes in the system are announced as part of his/her signing-on process.

8. Reviewer's Summary and Comments

VARS is a well-researched and designed program for one specific purpose: the determination of disability as defined under the Social Security Act of 1935, as amended. Because of this, any criticisms of the VARS logic or processes must be directed against the disability determination process and not this program. To be very direct, VARS performs its intended purpose in an excellent manner. The printout contains all the necessary information that was entered; this printout also requires explanations from the user for his/her decisions.

As with the other AIS products reviewed in this publication, the major problem with VARS is its manual and not the program. The manual definitely needs introductory materials, ideas and hints for case processing, at least one step-by-step example and an explanation of the data bases used.

In conclusion, VARS is simply an excellent, although a highly specific, program that should make disability determination more consistent.

9. Address

Ability Information Systems
North 2721 VanMarter, Suite #3
Spokane, WA 99206

10. Cost

For smaller users, there is a nominal one-time sign-on fee. Subsequently, there is an hourly access charge plus flat telecommunications expense (billable by actual use time). There is no monthly minimum charge. The hourly access charge is discounted on weekends, holidays, and in nonprime time (4:00 p.m. - 5:00 a.m., PST).

For a larger organization, the software can be leased/licensed for use at a site. The cost is determined by the minicomputer system configuration. AIS should be contacted directly for current price information.

11. References

Computer Assisted Vocational Evaluation: Special Study 85-32. (1986). Texas Rehabilitation Commission - Disability Determination Division.

Watters, G. M. (1985). Vocational computer systems and the Dictionary of Occupational Titles (A critical analysis). Journal of Applied Rehabilitation Counseling, 16(4), 10-14.

Vocational Information Processing System
(VIPS or AIS)

1. Development

   a. Producer - The VIPS system was developed by Mr. George M. Watters and is produced and marketed by Ability Information Systems of Spokane, Washington.

   b. Purpose - VIPS is a powerful tool with a wide variety of purposes: job matching, transfer of skill analysis, placement, vocational guidance counseling, education selection and occupational information. The system is especially useful in disability assessment.

   c. Data Base - VIPS has several data bases:

      - The entire fourth edition of the DOT and the Supplement, a total of 12,275 occupational definitions. This data base contains all of the job and worker classification codes as well as the narrative descriptions for all the occupational definitions in the DOT and Supplement.

      - An Extended Title File that contains 32,288 alternative job titles for the DOT data base. These titles are linked to the 12,275 base titles in the DOT data base.

      - Occupational Employment Survey (OES) national employment statistics. The OES files are organized according to SIC. For each SIC Code, the OES data base lists the actual number employed in 1982 and the projected employment in 1995. Although not broken out by SIC industry, there is OES information for eight states.

      - The Employer Files classify potential employers by zip and SIC Codes. The SIC Codes are crosswalked from the DOT Code. This file will print potential employers by SIC Code. Employer listings are arranged by state and subdivided into logical geographic search areas. These employer listings (job development leads) are entered/maintained by AIS.

      - The Job Bank is a user developed data base. The user can enter, edit, and delete jobs in the local economy. In addition to the usual job and worker classification codes, this data base contains an option to expand the physical demands from the six in the Job Analysis Handbook to the 29 contained in the new A Guide for Analyzing Jobs.

      - In the Client Bank the user can enter and store client records for future use. Information saved includes basic demographics, comments, work history and work restrictions, including expanded physical characteristics. This data base can be matched against jobs in the job bank.

      - The Schools Bank permits the selection of colleges and vocational schools by several variables: major, name, and region. Educational majors are classified either by NCES (National Center for Education Statistics) or CIP Codes. The manual is unclear as to whether this data base is user developed or AIS developed.

The manual does not contain any information on the development of the data bases.

d. User Groups - This system is intended to be used by the vocational expert, vocational evaluator, placement specialists and disability determination specialists. Prior knowledge of job analysis procedures, job classification codes and the DOT are required for realistic and accurate use of the system. VIPS is definitely not intended either for clients or uninformed professionals.

2. Hardware

AIS has traditionally been available on a timesharing basis, but is also available to larger organizations on a site license/flat fee basis. AIS can also sell/lease the minicomputing equipment needed for these larger installations.

On a timesharing basis, a smaller user needs a terminal or communicating microcomputer, a 1200 bps (baud) modem, a printer and monitor. Through the modem, a user can dial a local Tymnet phone number or call AIS directly. Tymnet is like a MCI or Sprint service, only strictly for long distance computer data transmission. It is used to reduce the telecommunications expense. Communications protocol is: 1200 bps, asynchronous, 7 bit, 1 stop bit, even parity, full duplex, enable auto feed line, and 24 line by 80 column monitor display.

For larger installations with a local minicomputer, AIS will recommend and install the necessary hardware that fits the customer's networking needs. This kind of installation will be highly site specific but will maximize the opportunity for information networking. Some of the minicomputers capable of running this AIS software are "office environment" style and do not have to be housed in a special computer room.

3. Software

a. User Manual - The user manual, contained in a loose leaf notebook, has the following chapters: how to get started, searching DOT database, job/employer information, job bank procedures, client bank procedures, school procedures, print file procedures, data base search procedures and other procedures. The main menu is displayed after logging in. Here the user makes his/her initial selection; the major choices correspond to the chapters in the manual listed above. After selecting from the main menu, the program moves to various secondary menus. Most of the manual explains these secondary menus. Explanations are for the most part complete and occur in a logical sequence. The menu contains many examples taken from reports and screen displays; these are very useful. Online "Help" commands are intended to supplement the manual.

The major problem with the manual is that it contains no information on the history and the use of the system. Unlike most other manuals, there is no information on how to use the system to solve various problems and little explanation on the various codes and data bases. It is almost as if the present manual was printed without several introductory chapters and/or explaining appendices.

b. Forms - No data entry forms are used. However, AIS is field testing a data entry form.

c. Other Software - No software is provided except the system manual.

d. Expendable Supplies - The only expendable supplies are paper and ribbon for the printer.

e. Support Systems - Ability Information Systems maintains a "hotline" telephone service designed to answer technical questions.

4. Machine Processing

a. Input Procedures - All data are entered using a personal computer or dumb terminal connected to the central program source either locally or in Spokane. The user initially dials into the data network, gives the appropriate passwords, and then proceeds to enter his/her information through the keyboard. All information is keyed into the terminal or computer in menu options, questions and directions are displayed on the screen.

b. Data Input - Although input varies somewhat with the modes, the common procedure is to begin with the client's job history either by entering the DOT title or DOT code. If the user does not know the job title, he/she can use the list of various DOT titles, compare their occupational definitions to the client's job and then select the most appropriate title. After each job is entered, a composite profile containing the combined characteristics of each job is displayed. At this point the user can adjust this profile to reflect changes derived from medical, vocational evaluation, and/or other data.

The user has the option to change a wide variety of job and worker classification codes: Physical Demands, GED, Aptitudes, SVP, Temperaments, Interests, Environmental Conditions, Work Fields and MPSMS Codes. Because all the user must do is enter the work history, there is almost no problem with missing data. In other words, once the DOT codes or job titles are accurately entered, the program provides the job description and the job requirements.

The VIPS system can also be used as a very swift device to obtain coded and/or detailed information about just one occupation. The information could include narrative, worker characteristics, crosswalked codes to many other resources, labor market information (national or state level), and/or employer possibilities (job development leads) by user selected SIC industries.

In the Schools data base, a different set of variables are entered: program major, name of school and region. The Schools program is totally separate from the rest of the program options. It does not use the Worker Trait Profile format to enter data.

c. User Control - One of the major features of VIPS is the high degree of user control, which requires the user to select his/her options. The major program modes, which can be used with most of the data bases, are as follows:

- In the Placement Mode the user enters the client's work history and adjusts this history to reflect current levels of functioning. The program searches for jobs using different combinations of Work Fields and MPSMS (i.e., transferrable skills). Also considered is the amount of work skill possessed by the client in each field of work.

- The Counseling Mode searches for jobs based on the client's Worker Trait Profile and, especially, interests. Searches are made by two, four or six digit GOE Codes. The default search is made from GOE Codes taken from the client's job history, but the user is able to change the GOE Codes to reflect new client interests.

- The User Select Mode is the most powerful mode in the system. After the work history is entered and adjusted (as in the placement mode), the user can search for jobs based on any user entered combination of MPSMS, Work Fields, DOT Industry Designation, Census Codes and/or GOE codes.

- The Restructure mode allows the user "to compare a client's abilities with the traits required for a specific occupation." The DOT job is selected and the client's profile is compared to that job.

Within each of the first four modes, there are several subroutines, including two methods for locating the correct DOT title and code:

- The Extended Title Search matches a specific job title to the appropriate DOT definition when the user does not know the DOT code.

- In the Review Job Details by DOT Code the user can "look up" information about a particular job in the DOT.

In addition to selecting modes, the user has the option to interface with the program while it is running. The user can, for example: adjust program files, request detailed explanations, insert comments, establish printing formats and review data prior to printing. Finally, the user can make changes in the options and re-enter new data at selected points.

The user has total control over the client and job banks. The client bank stores the final adjusted client profiles together with the client identification data. The client profile can be expanded in physical demand characteristics in the 1982 Guide for Job Analysis criteria. The job bank stores user input information about specific jobs in the community. The DOT job description may be text edited to reflect the exact job duties. Selected and expanded physical characteristics may be changed to reflect any deviations from the DOT standard. Comments may be stored along with the company name, contact person and salary. The date of latest update is automatically displayed. Finally, the user may search the client bank for an appropriate match to a new job; search the job bank for a new client; or match the entire client bank against the entire job bank.

There is another mode to the system which allows "free form" access to most of the database files. These database search and display procedures are very powerful methods for extracting information for research analysis, planning or custom inquiry.

d. Processing Sequence and Logic - Within the program, all decision making on variables is made using an either/or logic. Each continuous variable (e.g., Aptitude, GED) must be equal to or less than the required variable before it can be selected. Discrete variables (e.g., Temperaments) and job classification codes (e.g., Work Fields) must match exactly unless otherwise specified. Regardless of the mode, there are five steps in the VIPS system:

- Enter client job history: The DOT title or code for the client's significant job history are entered; the number of years of employment on each job is also entered.

- Adjust work profile: After the job history is entered the program prepares a composite client profile. This job history profile can be modified to reflect the client's present functioning levels. The following variables can be modified at this point: Strength, Physical Demands, expanded Physical Restrictions (i.e., the 28 factors in the Guide), SVP, Temperaments, Environmental Restrictions and Bi-Polar Interests.

- Choose method of searching the DOT: The user selects either placement mode, counseling or user select mode. In the placement mode the Work Fields and MPSMS Codes from the job history are automatically used; however, the user does have control over degree of closeness between these two codes and related jobs. In the counseling mode GOE codes are added. The MPSMS, Work Field, Industrial Designation, Census Codes and/or GOE Codes are entered in the user select mode.

- Display information found: After the DOT data base is searched the results can be either displayed or printed. The user can review results on the screen and eliminate any unwanted jobs prior to printing. The user then designs his/her own report parameters. At this point OES statistics are either displayed or printed.

- Search for possible employers: The user can either search the employer file, which crosswalks from selected DOT codes to SIC codes or search a user developed job bank. In using this profile, places of employment are listed by SIC code. The user can change to the job bank at this point and any mode (i.e., placement, user select or counseling).

The schools data base is searched using a straight search by fields approach. The client profile is not used with this data base.

e. Data Output - The user has almost complete control over the printout contents. The user can add comments and detailed explanations of why variables were changed and why profiles were adjusted. The user with a personal computer has two options when printing a report. He/she can have the report printed immediately, or he/she can save it on a floppy disk for later printing. On a minicomputer the report can be "spooled" to the printer to allow the user to immediately go on to another case.

5. Output

a. Format - The appearance of the report is dependent upon the quality of the printer. The final report can be printed on 8 1/2 by 11 inch paper, with space for the user's letterhead.

b. Content - The typical VIPS report contains: (1) a detailed job description of the DOT job definition, job requirements and various classification codes for each job in the client's occupational history, (2) a final profile based on job history, (3) a summary of the adjustments made by the user in the final profile, (4) the job search strategy selected, (5) the actual jobs selected, together with the DOT code and other variables, (6) the OES statistics, and (7) in some cases a list of potential employers, from either the job bank or the employer file.

The printout contains all job requirements (e.g., GED, Aptitudes) and classification codes (e.g., Census Codes). All variables are defined on the printout. The user has the option of printing either a codes report or a detailed report. The detailed report contains explanations of all codes, both in the client profile and for the jobs selected. From this list it is the user's task to select jobs that exist within the local economy.

The manual contains no information on how to interpret the results; these are left to the discretion of the user. There is little unnecessary information in the report.

6. Relationship to Assessment Devices

The only point where outside data are entered in most of the modes is at the point of profile adjustment. The user can input data from any source, such as medical records, vocational evaluation results or personal judgment. VIPS does not require input from any specific test or vocational system. GATB aptitude scores can be entered directly and converted to the five point aptitude ratings.

7. Training

a. Training Required - No training is required prior to sale.

b. Training Available - Classes are available in Spokane and at selected sites by arrangement.

c. Follow-up - Follow-up training is available upon arrangement with AIS. There are two sources of continuing information. First, a hot-line number for technical services. Second, new procedures and changes in the system are announced as part of his/her signing-on process.

8. Reviewer's Summary and Comments

The VIPS is a complex, powerful and versatile system that should be very useful for job matching, counseling, placement and job restructuring. The system contains many options that enable the user to obtain a wealth of valuable data in a short period of time. VIPS has the power to produce almost any combination of data that is in its data bases. Flexibility, ability to handle complex manipulations, and, especially, several large data bases are the strong points of the system. Because it is a central source system, VIPS has the added advantage of being able to make updates in the data base and in programming at any desired time. With the exception of the Schools option, it is very difficult to criticize the VIPS program.

The Schools option is not related to any of the other program functions or data bases. It is as if this option is a totally separate program within the VIPS program. For example, the user can not search for college majors or schools by using the client profile. There is no way to relate a specific job to the training needed. In short, there should be crosswalks between DOT codes and NCES (National Center for Education Statistics) or CIP Codes.

The other problem with VIPS lies in the manual. There is no introductory information to provide a general overview of the system; this would be helpful in providing new users with the purpose and major features of VIPS. Although the new VIPS manual is a vast improvement over the older one, the new manual should provide information on interpretation, explanations of the codes, information on the development of the various data bases, some step-by-step examples, references, and sample printouts. This lack of a more useful manual probably deters VIPS' use with all but professions thoroughly familiar with job analysis methodology and the DOT.

In spite of these problems with the manual and the Schools data base, the reader should remember that VIPS is probably the most sophisticated job matching system presently available.

9. Address

Ability Information Systems
North 2721 VanMarter, Suite #3
Spokane, WA 99206

10. Cost

For smaller users, there is a nominal one-time sign-on fee. Subsequently, there is an hourly access charge plus flat telecommunications expense (billable by actual use time). There is no monthly minimum charge. The hourly access charge is discounted on weekends, holidays, and in nonprime time (4:00 p.m. - 5:00 a.m., PST).

For a larger organization, the software can be leased/licensed for use at a site. The cost is determined by the minicomputer system configuration. AIS should be contacted directly for current price information.

11. References

Corson, W., Maynard, R., & Wichita, Jr. (1984). *Process and implementation issues in the design and conduct of programs to aid the reemployment of displaced workers*. A report prepared by Mathematica Policy Research, Inc., for the Office of Research and Evaluation, U.S. Department of Labor, Employment and Training Administration.

Fry, R. R. (1982). Abilities Information System's computerized occupational information system. *Vocational Evaluation and Work Adjustment Bulletin*, *15*(3), 120-121.

Watters, G. M. (1985). Vocational computer systems and the *Dictionary of Occupational Titles* (A Critical Analysis). *Journal of Applied Rehabilitation Counseling*, *16*(4), 10-14.

Wright, L. M., Jr. (1984). Case study: Buffalo Reemployment Center; Buffalo, New York. A report prepared by CSR, Inc., under subcontract to Mathematica Policy Research, Inc., for the Office of Strategic Planning and Policy Development, Employment and Training Administration, U.S. Department of Labor.

Work-Match

1. Development

   a. Producer - Work-Match was developed by Mr. Richard Bernatchez and Mr. Robert Prudhomme of Microcomputer Applications.

   b. Purpose - The program assists the vocational evaluator or counselor in matching client characteristics to the job qualification profiles of a variety of occupations. Although it can be used in vocational guidance counseling, the main use is the comparison of client interests and capabilities with jobs in the data base.

   c. Data Base - The only data base available is 1,275 occupations taken from the DOT data base, as presented in Worker Trait Group Guide (Winefordner, 1978). "Jobs were removed that have significant overlay (e.g., multiple types of sewing machine operators) and other jobs added that were directed toward the handicapped." There is no information on how the characteristics of this sample compare with the DOT data base.

   d. User Groups - The system is designed for vocational evaluators and counselors. It is not intended for client use or self-exploration.

2. Hardware Required

   The system operates on an IBM-PC with the following configuration: 128K RAM, 132 column printer, one 360K floppy disk drive and a RS232 port (for a security device to prevent copying the disks). An Apple II version is also available; the following configurations are required: 64K RAM, two disk drives and a 132 column printer.

3. Software

   a. User Manual - The manual is well-organized and easy to follow in most places. After first describing the system, the manual goes on to provide detailed instructions for system use. The step-by-step instructions require almost no computer literacy; two detailed "trial runs" and other examples are presented. Instructions are presented for Mandatory and Nonmandatory program options (see below). The manual also contains: (1) descriptions of the printout, (2) definitions of the input variables, (3) a data input form, (4) valid search characteristics, and (5) a useful diagram of system logic.

   b. Forms - Two work sheets are provided for gathering client data and organizing input variables. One form is a work qualifications summary; this is used to summarize and record client input data prior to entry. The second contains reference descriptions for the input variables.

   c. Other Software - One floppy disk containing both program and data base is the only other software required. The system requires a DOS system disk to initiate the Work-Match program; this is not included in the package.

   d. Expendable Supplies - Printer paper and ribbon and photocopying of the data entry forms are the only expendable supplies.

e. Support Systems - At the beginning of the program there is a message giving the company address and a telephone number to call if there are any problems.

4. Machine Processing

a. Input Procedures - All data are entered using a keyboard.

b. Data Input - The system allows the entry of up to 23 variables: DPT, GED, 11 Aptitudes, Temperaments (i.e., work situations), RIASEC (i.e., Holland Codes), Physical Demands and Work Fields. The following data must be entered using the Mandatory Option (See below): GED, 11 Aptitudes, Temperaments, Interests and Physical Demands.

c. User Control - There are some decision points requiring user options: (1) When entering client data, he/she can incorporate as few as one or as many as all the variables listed above. (2) For many variables he/she can control the search logic for individual variables (e.g., equal to the entered value, or equal to, or less than the entered value). (3) He/She can transfer data to printer or print data. (4) After printing the results, the user can either continue the program with the same person, continue with a different person or end the program. Most important, the user has the option of which of the 23 variables he/she would like to include in the job search; he/she can constantly add, delete or change these variables. Finally, he/she can choose between the mandatory or nonmandatory route.

d. Processing Sequence and Logic - There are two separate search sequences and two separate types of output. The first choice is between the Mandatory and Nonmandatory options. In the Mandatory option the user must enter the following data: GED, Aptitudes, Temperaments, Interests, and Physical Demands. After these are entered, there is the option of searching the data base or adding additional variables. In the Nonmandatory option the user enters only the desired variables. (When GED is used as a variable, the program first sorts on the GED Reasoning value.)

The user also has the choice of two separate types of output. First, he/she can initially search the data base using either the Mandatory or Nonmandatory options. The jobs selected from this search are listed into a Select File. At this point the user can either print this job list or enter new variables to search the Select File (either Mandatory or Nonmandatory). This feature is very useful in narrowing down the large list of possible jobs into a smaller list of probable jobs.

e. Data Output - The output is the selected jobs. The user has no control over the format nor the content of this printout. After output is printed the user can then go back and add, change or delete some variables to make the output more useful. There are no provisions for comments and explanations.

5. Output

a. Format - A 132 column width paper is required. The data are presented in upper case and mostly in codes without verbal explanation. In general the format is easy to follow and understand.

b. Content - The printout contains two major parts: (1) a list of the search or input variables and (2) the list of "jobs with matching profiles." The 23 input variables described above together with their codes are listed, together with their search logics in some places. The following information is printed for each job match: Holland Codes, 9 digit DOT code number, GED, SVP, Aptitudes, Work Activities, Work Situations, Working Conditions, the DOT page number of the job, CGB number (Chronical Guidance Brief number), Work Field, Job Title, Physical Demands and four digit GOE Code (called the "WTG").

6. Relationship to Assessment Devices

Like most systems, the Work-Match is able to accept data from almost any source providing it is coded into the input format described above.

7. Training

a. Training Required - Not mentioned in the manual, assume none.

b. Training Available - Not mentioned in the manual, assume none.

c. Follow-up - Consultation hotline is provided if a mistake is made in loading or using the software.

8. Reviewer's Summary and Comments

The Work-Match represents a good compromise between overly simple job matching systems and the sometimes almost overwhelming complexity of others. The major advantages of the system are: (1) the flexibility of the Mandatory and Nonmandatory routes, (2) the ability to narrow down a large preliminary job list by adding or changing variables and the ability to expand a small job list by changing or deleting variables, (3) the inclusion of the Work Field as a variable permits some use of the system in performing a true transfer of skills search, and (4) with the exception of using the DOS disk, the manual is well documented and easy to follow.

The major problem with Work-Match is in the data base. Although the manual contains information on the procedures used to select the data base from the DOT, it does not tell how representative the data base is of jobs in the national economy. Given the faults of the DOT data base discussed earlier in this publication, it would be very useful if the system had procedures for developing a local job bank or data base.

9. Address

Microcomputer Applications
7805 South Windermere Circle
Littleton, Colorado 80120

10. Cost

Quantity	IBM/PC	Apple II
1	$495.00	$395.00
2 - 9	$475.00	$379.00
10 - 19	$455.00	$363.00
20 - 29	$429.00	$342.00
30 plus	$396.00	$316.00

11. References

None presently available.

A Comparative Study

The first section of this publication used a standard set of questions to describe each system. This section compares each system on how it processed a standard set of client profile variables. The purpose of this procedure is to provide an objective comparison of the input, processing and the output variables in terms of jobs, employer lists and educational institutions. The printouts relevant to this study are in the appendix.

The Sample Case [17]

The case of an industrially injured worker with a substantial employment history was chosen for study. Mr. Ralph J. Andersen is a 43 year old male with a 12 grade education; he has no specific vocational training and no military training. An injury two years ago as a result of a fall from the top of his tank truck while delivering gasoline to a filling station resulted in what his physician described as "mechanical low back pain with some loss of motion ..." It is also strongly suspected that he has chemical dependency and personality disorder problems. These make him irritable and uncooperative at times and further limit his vocational potential. He has been gainfully employed since he was graduated from high school, having held the following occupations:

903.683-018 Tank-Truck Driver (pertrol. refin.; ret. tr.; whole tr.) - Drives tank truck to deliver gasoline, fuel oil or liquified petroleum gas to customers. Twelve years of employment. The critical job classification codes are as follows:

GOE - 05.08-01 Truck Driving
MPSMS - 854 Motor Freight Transportation & Warehousing
Work Field - 013 Transporting
Census - 804 Truck Drivers, Heavy
SIC - 2911 Petroleum Refining
SOC - 8213 Truck Drivers, Heavy
OES - 54001 Truck Drivers, Heavy

910.682-010 Track Repairer (rr. trans.) - Operates railroad track maintenance equipment, such as portable grinder, spike puller, spike driver, and tie adz to grind ends of rails, remove old spikes, drive new spikes, cut ties to fit fishplates and perform related maintenance. Five years of employment. The critical job classification codes are as follows:

GOE - 05.12-12 Structural Work
MPSMS - 363 Railroad and Street Railroads
Work Field - 102 Structural Fabricating-Installing-Repairing
Census - 599 Construction Trades, nec.
SIC - several
SOC - 6467 Rail & Track Laying Equipment Operators
OES - 55D25 Track Layer

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[17] This sample case is a composite of several worker's compensation cases the author has dealt with over the past seven years. The client's name and identity are fictitious.

454.684-018 Farm Worker, General I (agric.) - Drives trucks and tractors and performs a variety of animal and crop raising duties as directed on a general farm. Five years of employment in spring, summer and fall. The critical job classification codes are as follows:

GOE - 03.04-01 Farming
MPSMS - 300 Field Crops, Fruits and Nut Trees
Work Field - 003 Cropping
Census - 479 Farm Workers
SIC - several
SOC - 5612 General Farm Workers
OES - 00000 Not Included

Because Mr. Andersen owns his home, his wife has a steady job and their children are in school, he definitely does not want to relocate. He would also prefer a job that would not require formal vocational training; however, if necessary, he would consider a training period of six months to one year. Based on his job history, his transferrable skills, medical history and a one-week vocational evaluation, the following client profile was developed:

General Educational Development (GED):

3 - Reasoning (R)
3 - Mathematics (M)
3 - Language (L)

Aptitudes:

3 - General Learning Ability (G)
3 - Verbal (V)
4 - Numerical (N)
3 - Spatial Perception (S)
3 - Form Perception (F)
4 - Clerical Perception (Q)
3 - Motor Coordination (K)
3 - Finger Dexterity (F)
2 - Manual Dexterity (M)
3 - Eye-Hand-Foot Coordination (E)
3 - Color Discrimination (C)

Specific Vocational Preparation (SVP):

5 - six months to one year

Physical Strength:

Light (L) - Lifting 10# frequently and occasionally lifting up to 20#

Physical Limitations:

He cannot perform occupations requiring:

2 - Climbing and/or balancing
3 - Stooping, bending, crouching, crawling

He can perform occupations requiring:

4 - Reaching, handling, fingering and feeling
5 - Talking, hearing
6 - Seeing, vision

Environmental Conditions:

I - Indoor

He cannot work under these conditions:

2 - Extreme cold with or without temperature changes
4 - Wet and/or humid conditions
5 - Noise and/or vibrations
6 - Presence of hazards

He can work under these conditions:

3 - Extreme heat with or without temperature changes
7 - Atmospheric conditions such as gas, dust, fumes

Temperaments:

He should not be employed in jobs that require:

F or FIF - Interpretation of feelings, ideas or facts from a personal point of view
I or INFLU - Influencing people in their opinions, attitudes or judgments
J or JJC - Making evaluations or decisions based on sensory or judgmental criteria.

He may be employed in jobs that require:

D or DCP - Accepting responsibility for direction, control or planning
M or MVC - Making judgments or decisions based on measurable or verifiable criteria
P or DEPL - Dealing with people beyond giving and receiving instructions
R or REPCON - Performing repetitive work or to continuously perform the same work
S or PUS - Performing under stress when confronted with emergency, critical, unusual or dangerous situations.
T or STS - Precise attainment of set limits, tolerances or standards
V or VARCH - Performing a variety of duties, often changing from one task to another or a different nature

Bipolar Interests:

He should not be employed on jobs that require:

1B - Activities concerned with the communication of data
3B - Activities of an abstract and creative nature

He may be employed on jobs that require:

1A - Activities dealing with things or objects.
2A - Activities involving business contact with people
2B - Activities of a scientific and technical nature
3A - Activities of a routine, concrete, organized nature
4A - Activities working for the presumed good of people
4B - Activities that are carried on in relation to processes, machines and techniques
5A - Activities resulting in prestige or the esteem of others
5B - Activities resulting in tangible productive satisfaction

GOE Interests:

He prefers jobs in the following areas:

05 - Mechanical, especially in: 05.05 Craft Technology, 05.07 Quality Control, 05.10 Crafts, and 05.12 Elemental Work: Mechanical
06 - Industrial, especially in: 06.02 Production Work, 06.03 Quality Control, 06.04 Elemental Work: Industrial

He does not prefer jobs in the following areas:

01 - Artistic
02 - Scientific
03 - Plants and Animals
04 - Protective
07 - Business Detail
08 - Selling
09 - Accommodating
10 - Humanitarian
11 - Leading; Influencing
12 - Sports

Salary:

He would have to have a job that paid at least $14,000.00 per year.

Materials, Products, Subject Matter or Services (MPSMS):

The following are based on employment history:

854 - Motor Freight Transportation and Warehousing
363 - Railroad and Street Railroads
451 - Logs, Rough Lumber and Fuel Wood
300 - Field Crops, Fruits and Nut Trees

The following MPSMS reflect possible occupations in the local economy:

470 - Paper and Paper Allied Products
512 - Footwear, except Rubber and other Molded Footwear

564 - Electric lighting and wiring equipment
567 - Electronic components and accessories

Work Fields (WF): The following are based on employment history:

013 - Transporting
102 - Structural Fabricating-Installing-Repairing
002 - Logging
003 - Cropping

Data-People-Things (DPT): In systems that assume that DPT is a hierarchy, the following levels were assigned:

Data 5 - Copying
People 6 - Speaking-Signaling
Things 3 - Driving-Operating

Methodology

The methodology was very straightforward - all possible data in the above profile were entered on each system according to the instructions in their respective manuals. Because each program had its own set of variables, the same profile could not be entered for each system. Thus, the test case data were entered to the extent possible. For example, if a system could accept two GOE Codes, then codes 05 and 06 were entered. If the particular program accepted only one GOE Code, then code 05 was entered. If the system did not allow for GOE Codes, then this aspect of the profile had to be ignored.

All data were run using production programs; no prototype, experimental or specially modified programs were used. All of the programs were run on either: (1) an IBM-PC with two floppy disk drives, 192K RAM, and a Toshiba P341 printer or a Toshiba P1340 printer or (2) an IBM-AT with 20 Megabyte hard disk, one regular floppy disk drive, one high density disk drive, 512K RAM and a Hewlett-Packard HP 2686A Laser Jet Printer.

Only systems using either the DOT data base or a data base derived from the U.S. Department of Labor job analysis procedures were included in the study:

VOCOMP
CompuJOBS
Computerized Career Assessment and Planning Program (CCAPP)
CHOICES
DataMaster III
JOBS
Job-Person Matching System (JPMS)
Labor Market Survey (LMS)
OASYS
ValSEARCH
VARS
VIPS
Work-Match

Because they are not based on the DOT, the Isabel and the Job Matching II Survey were not included. This exclusion should not be interpreted as a negative finding. It only means that these programs have special and specific purposes that are different from the rest of the systems.

Results and Discussion

The results of the study are presented on Tables 1 and 2. When reading these tables note that blank cells indicate that these data are not included in the profile or printout. There are two ways to compare the variables listed in Table 1. The first way is to determine their presence or absence. The second way is to note differences between how the same variable may be entered in each program. For example, for SVP some systems require the entry of a single level; others require that a range be entered.

As can be seen in Table 1, all systems permit the entry of the following variables: (1) at least some of the 11 Aptitudes, (2) Strength, and (3) Physical Demands. When entering Aptitudes, only CHOICES and DataMaster III require the entry of less than the full number of 11 Aptitudes. CHOICES does require the entry of Hand-Eye-Food Coordination and Color Discrimination; this is most likely because these two aptitudes are not measured by the GATB or related tests. DataMaster excludes General Learning Ability (G), Verbal (V) and Numerical (N) for different reasons: These three Aptitudes are so highly correlated with the Reasoning (R), Mathematics (M) and Language (L), the three separate GED, scales that measure G, V and N are redundant. In the entry of Strength, all systems except the Labor Market Survey (LMS), require that a single level be entered. All Strength levels below the entered level are automatically included. Thus, if "Light" is entered, the programs will select for jobs having either "Sedentary" and "Light" Strength requirements. The LMS requires that a range be entered. Finally, all systems require that the restrictions be entered. Note, however, that VOCOMP, CHOICES, VARS and VIPS allow for additional or expanded restrictions. CHOICES' and VOCOMP's categories are refinements of the five DOL Physical Demands. VARS and VIPS can be expanded to include the 28 factors included in the new A Guide to Job Analysis.

Although only three variables are included in all systems, most systems permit the entry of the following variables: (1) GED, (2) SVP, (3) Environmental Conditions, (4) Temperaments and (5) Bi-Polar Interests. Some form of General Educational Development is entered in all except CCAPP. However, VOCOMP and VARS do not ask for GED per se; these systems require a single school grade level or its equivalent. In the remainder of the systems, the user enters separate ratings for R, M, and L. Specific Vocational Preparation (SVP) is entered in each system except DataMaster III, and Job-Person Matching System. It should be noted that these two systems grew out of the same theoretical background and shared a common ancestor in the McCroskey Vocational Quotient System (McCroskey and Perkins, 1981). All the remaining systems except CHOICES use the DOL nine level SVP scale; CHOICES uses a six level scale. With the single exception of Work-Match, all systems require the entry of the Inside-/Outside/Both work site and six Environmental restrictions. The 10 or 11 Temperaments and Bi-Polar interests are included in all systems except CompuJOBS, DataMaster III and LMS. These three systems have two commonalities that may account for not including Temperaments and Interests: (1) All are floppy disk systems and not including Temperaments would occupy disk storage space that could be better used for increasing the data base. (2) These systems are designed primarily for litigation, where Temperaments and Interests are usually not considered. The rest of the systems differ in their treatment of Temperaments and Bi-Polar Interests. Although most systems have the user exclude Temperaments that are not wanted, CCAPP, CHOICES, JOBS and ValSEARCH permit the user to include desired Temperaments. Although most systems include Bi-Polar Interests, some of the systems list these ten factors as separate items, meaning that the user does not have to choose one of the Bi-Polar pair over another.

The systems differ widely on the inclusion of and the importance assigned to GOE interest, Data-People-Things, and work history. All systems except LMS and DataMaster III have some provision for entering Interests. Six systems include at least one GOE Code in the client profile. CCAPP, JOBS, ValSEARCH, VIPS and Work-Match permit the entry of both Bi-Polar and GOE Interests. Six systems allow the entry of a DPT level for each client. CompuJOBS, JPMS, ValSEARCH and Work-Match implicitly assume that DPT are three separate hierarchies. Therefore, if a person can perform at one level then he/she can perform all jobs "below" this function. CCAPP does not use the entire range and merely divides the hierarchies into three levels (i.e., high, medium and low). The OASYS system is the only system assuming (correctly in the opinion of this writer) that Data, People and Things are not hierarchies and that each function must be treated separately. This requires the user to make 27 separate decisions instead of three, the increased precision more than makes up this extra entry time.

The ability to enter job history is critical when the software is to be used with adults. Work history is included as part of six systems: VOCOMP, DataMaster III, JOBS, JPMS, OASYS, VARS and VIPS. Each of these systems uses this work history to develop a client ability profile. This profile is then modified to produce the final search profile. Systems with this general procedure are very useful in situations, such as worker's compensation and Social Security Disability, where the present level of functioning must be related to past performance.

The final set of variables, "Other Variables" included are a variety of job classification codes designed to either give the user greater precision variables in the data base or to limit data base searches to a specified geographical area. For example, programs centering on a realistic transfer of skills include Work Fields and/or MPSMS (i.e., OASYS, ValSEARCH, VIPS, VARS and Work-Match). The two job matching systems, CCAPP and CHOICES, used primarily for occupational information included favorite school subjects, earning levels, future outlooks and Holland Codes. Most of the VOCOMP variables are used to define a search for local employment and/or training.

Table 1 - Client Profile Input Variables and

VARIABLE	CHOICES	VOCOMP	CompuJOBS	CCAPP	DataMaster III	JOBS
GENERAL EDUCATIONAL DEVELOPMENT	1-6 enter one rating grade 10 to graduate school	grade level completed/ functioning level	R, M, & L enter 1-6 level		R, M, & L enter 1-7 level	R, M, & L enter 1-6 level
APTITUDES	9 Aptitudes enter rating 1-5	11 Aptitudes enter rating 1-5	11 Aptitudes enter rating 1-5	11 Aptitudes enter rating 1-4	S,P,Q,K,F M.E.C. enter rating 1-6	11 Aptitudes enter rating 1-5
SPECIFIC VOCATIONAL PREPARATION	6 factors 3 months to 4 years enter range	enter level 1-9	enter level 1-9	enter level 1-9		enter level 1-9
STRENGTH	S-VH enter restrictions	S-VH enter level	S-VH enter restrictions	S-VH enter level	S-VH enter level	S-VH enter level
PHYSICAL DEMANDS	14 restrictions enter restrictions	10 restrictions 4 levels of functioning enter level	5 restrictions enter restrictions	5 restrictions enter restrictions	5 restrictions enter restrictions	5 restrictions enter restrictions
ENVIRONMENTAL CONDITIONS	I/O/B 6 restrictions enter restrictions	I/O/B 6 restrictions enter restrictions	I/O/B 6 restrictions enter restrictions	I/O/B 6 restrictions enter restrictions	I/O/B 6 restrictions enter restrictions	I/O/B 6 restrictions enter restrictions
TEMPERAMENTS	11 Temp. include/exclude	11 Temp. enter critical factors		10 Temp. enter could/ could not adjust		10* Temperaments enter restrictions
BI-POLAR INTERESTS	10 not listed as opposites select include/ exclude for each	10 Interests enter 1 factor per pair		10 not listed as opposites select like/ dislike for each		10 Interests enter factor to select on
GOE INTERESTS			1 code up to 6 digits	01-12 select 2		01-12 enter up to 3 codes

* JOBS has two Temperament options, you can also search for jobs having certain Temperaments

Major Program Options for Job Matching Systems

JPMS	LMS	OASYS	ValSEARCH	VARS	VIPS	Work-Match
R, M, & L enter 1-6 level	R, M, & L ** enter 1-6 range	R, M, & L enter 1-6 level	R, M, & L enter 1-6 level	educational level	R, M, & L enter 1-6 level	R, M, & L enter 1-6 level or range
11 Aptitudes enter rating 1-5	11 Aptitudes enter rating 1-5 low-high	11 Aptitudes enter rating 1-5	11 Aptitudes enter rating 1-5	11 Aptitudes enter rating 1-5	11 Aptitudes enter rating 1-5	11 Aptitudes enter rating 1-5
	enter level 1-9 low-high	enter range 1-9 minimum/ maximum	enter level 1-9	enter level 1-9 determined from job history	enter range 1-9	enter level 1-9
S-VH enter level	S-VH enter range low-high	S-VH enter level	S-VH enter level	S-VH enter level	S-VH enter level	S-VH enter level
5 restrictions enter restrictions	5 restrictions enter restrictions	5 restrictions enter restrictions	5 conditions enter include/ exclude/don't care	5 restrictions plus expanded restrictions enter yes/no	5 restrictions plus expanded to 28 enter yes/no	5 restrictions enter restrictions
I/O/B 6 restrictions enter restrictions	I/O/B 6 restrictions enter restrictions	I/O/B 6 restrictions enter restrictions/needs	I/O/B 6 conditions enter include/ exclude/don't care	I/O/B 6 restrictions enter restrictions	I/O/B 6 restrictions enter restrictions	
10 Temp. enter restrictions		10 Temp. enter restriction/needs	10 Temp. enter include/ exclude/don't care	10 Temp. enter restrictions related to mental restrictions	10 Temp. enter restrictions	10 Temp. enter up to 5
10 Interests enter restrictions		10 Interests enter restriction/needs	10 Interests select one for each pair or don't care	10 Interests enter restrictions	10 Interests choose 1 of 5 factors	10 Interests enter codes to be selected
			01-12 select 1 code		enter GOE Code set to control search	01-12 select 2 to 4 digit codes

** All LMS variables use same format--Pre-Access Low-High and Post-Access Low-High.
Test case run with DOT data base.

(continued on next page)

Table 1 - Client Profile Input Variables and

VARIABLE	CHOICES	VOCOMP	CompuJOBS	CCAPP	DataMaster III	JOBS
DATA-PEOPLE-THINGS HIERARCHY			D-P-T one level of each	D-P-T high, medium, low select 1		
WORK HISTORY		3 most recent or most important jobs			enter work history in DOT Title/Code	enter work history in DOT Title/Code
OTHER VARIABLES	9 levels of earnings 3 levels future outlooks Holland categories	zip code, area code, minimum wage, work field, training site pref., industry	OGA, 1 DOT Code, 1 job title/DOT Title	12 school subjects	SVQ	
MAJOR PROGRAM OPTIONS	explore, specific information, compare, find related occupations	evaluation profile, automatic transfer of skill analysis	run main program	career assessment, selecting alternatives, career planning, career exploration	run main program, interest/skills analysis	DOT search, education, employer, job bank

Major Program Options for Job Matching Systems (continued)

JPMS	LMS	OASYS	ValSEARCH	VARS	VIPS	Work-Match
D-P-T enter one level for each		D-P-T separate entry for each level	D-P-T one level for each			D-P-T enter level for each
enter work history-only jobs in data base		enter work history		DOT Code, job title, or key word	DOT Code, job title, or key word	
		Work Fields, MPSMS, OGA	CIP, SOC, Work Fields, MPSMS, Industrial Designation	age, educational, mental restriction, MPSMS, Work Field, Indust. Designation, Census	MPSMS, *** Work Fields, Census, Industrial Designation	Holland Scales, OGA, Work Fields
run main program	DOT search, Census search	profile search, transferrable skills search, skill-job goal comparison	DOT search, employer search job search, educational search	run main program	placement, counseling, user select, schools	mandatory,**** nonmandatory

*** VIPS - User Select Mode
**** Work-Match variables for non-mandatory search

In summary, of the 13 systems compared in this study, all required that three types of variables be entered:

Aptitudes - Most commonly 11 rated on a five-point scale.
Strength - All used Sedentary through Very Heavy, with all except one entering the level of functioning.
Physical Demands - In all except two cases, the DOL method of five restrictions was used.

Most of the systems had provisions for the entry of the following factors:

GED - Nine had separate scales for R, M and L.
SVP - Most systems included a nine point scale for determining SVP.
Environmental Conditions - All except one entered inside/outside/both and six restrictions.
Temperaments - Except for two, either 10 or 11 Temperaments could be included in the search profile.
Bi-Polar Interests - Ten of the 13 allowed these interests to be entered.

In generalizing from this summary, the typical job matching system allows the entry of the following Worker Trait Profile: 11 Aptitudes on a five point scale; one level of Strength; five Physical Demands; separate GED scales for R, M and L; a nine level SVP scale; six Environmental Conditions; ten Temperaments and five Bi-Polar Interests.

The final section of Table 1 contains a summary of the major program options. These are explained in detail in the "4. Machine Processing" sections of the system descriptions. In general, the number of options centers around two major variables: (1) the manipulation of the data entry variables and (2) the data base(s) compared to each profile. For example, CHOICES changes to search logic and yet compares each process to the same data base. The ValSEARCH series of programs use the same variables and search methods with several different data bases. Some of the smaller systems (e.g., CompuJOBS) only are capable of comparing one profile option against one data base. Thus, in selecting a job matching system the potential user needs to look at both the search strategy(ies) and the data base(s).

Table 2 gives the output for the 13 systems. The first section contains the number of jobs in the data base and the number of jobs selected in the sample case. Although the number of jobs selected is a function of many factors, the number of jobs in the data base does not seem to be highly related to the number of jobs selected. JOBS, OASYS, ValSEARCH, VARS and VIPS all contain the entire DOT and Supplement. Yet the average number of jobs selected are not much more than in systems with smaller data bases. The absolute number of jobs selected is not as important as the precision of job choice. In the JOBS and OASYS programs, for example, only four and three occupations, respectively, were selected. This appears too small until it is recalled that the test case used a strict transfer of skills, involving MPSMS and Work Fields. A second factor is the selection of jobs for inclusion in the data base. If the developer selected a large percentage of lower skilled entry level jobs, then relatively more jobs would be selected. This was apparently the case with CompuJOBS, DataMaster III and Work-Match. In any system, the number of jobs on the printout, then, must be judged in terms of precision and relationship to the local labor market and not merely to the total number of jobs generated. Thus, being able to adjust the input data with enough precision to produce five jobs that exist locally is much more useful than selecting 75 jobs that exist somewhere in the national economy. In conclusion the number of jobs contained on a printout is only a very crude measure of a system's usefulness.

The second row of Table 2 lists the input variables included in the printout. Three general types of information are reported. First, VOCOMP and CHOICES [18] do contain a client profile. Second, most of the systems (CompuJOBS, CCAPP, JOBS, LMS, OASYS, ValSEARCH, VIPS, and VARS) contain a client profile listing the search variables. Third, in systems where the job history is entered report either the job history alone (DataMaster III, JPMS and Work-Match) or in combination with the client profile (OASYS, VARS and VIPS). It is important that the printout contain a complete description of the entered profile and job history, if applicable, because these are the variables on which the job matches are made. They should be clearly identified. The inclusion of these data makes report writing and interpretation easier.

The next row on Table 2 dealt with the explanations of codes on the printout. Beginning users and those not familiar with job analysis terminology can become confused if only abbreviations are given. Many of the systems avoid this by listing the name of the variable. For example, "Verbal Aptitude" instead of "V" is printed. CompuJOBS, DataMaster III, LMS and Work-Match offer no explanations of codes on the printout. These are all floppy disk systems with limited storage space. CCAPP, JOBS, JPMS, OASYS, ValSEARCH, and VIPS use variable names. CHOICES uses a combination of variable names and abbreviations. VIPS has an option that will print the definitions of each variable used in the search profile.

The most single important section of the report is the listing of jobs for which the client is qualified. In order to save the user the trouble of having to look up the job and worker classification variables, all systems list some of the variables by which the occupation is classified. Except for VIPS each system has a specified format. For example, CompuJOBS lists DOT title and code, Physical Demands, Environmental Conditions, GED, SVP and Aptitudes; DataMaster III (with 80 column printout) lists DOT title and code, GED, SVQ and GOE Code. In addition to the usual codes, CHOICES lists future outlook, earnings, Holland Codes and hours of work. Although it has a standardized format, VIPS also allows the user to select up to 80 columns of codes. He/she selects the codes to be printed; after DOT title and code are printed there is room for about six other variables. Finally, VARS does not list any codes; only jobs having a direct transfer of skills are listed. In systems that do not permit the user to select the output, the potential purchaser must review the variables on the printout to decide what is needed. If the system is to be used mainly for occupational exploration, it should contain GOE Codes, Temperaments, Bi-Polar Interests, and SVP. A system used in transferrable skills analysis needs GED, Aptitudes, SIC, MPSMS and Work Field. All systems used with physically disabled persons must contain Physical Demands and Environmental Conditions.

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[18] CHOICES lists each variable selected in rank order of importance to the student and then provides a counselor's summary near the end of the search part of the program.

Table 2

CONTENT	CHOICES	VOCOMP	CompuJOBS	CCAPP	DataMaster III	JOBS
NUMBER OF JOBS - SELECTED		41	99	N/A	46	4 (sample W.F. & MPSMS)
- IN DATA BASE	885	12,098 (grouped by clusters)	1461	66 clusters 1200	805	12,375
INPUT DATA CONTAINED ON PRINTOUT	no summary profile per se	job history	client profile data	student profile	job history	client profile
EXPLANATIONS OF CODES ON PRINTOUTS	some codes used without explanation	none	none	no codes used verbal	none	variables named
VARIABLES LISTED FOR JOBS SELECTED	educ. level; worksite; Phys. Demands; Temperaments; earnings; Aptitudes; Interests; future outlook; physical activities	DOT Title & Code; cluster name; percent of match	DOT Title & Code; Phys. Demands; Environmental Conditions; GED; SVP; Aptitudes	clusters; area of work; Bi-Polar; school subj. Aptitudes	DOT Title & Code; GED; SVP; GOE	DOT Title/Code; GED; Aptitudes; Envir. Conditions; Physical Demands; Temperaments; GOE; Bi-Polar; CIPS Code/Title
OTHER DATA ON PRINTOUT	hours of work; Environmental Conditions; Holland Codes	training and employers addresses	none	forms for student use	none	employers SIC/ OES crosswalks

* Datamaster - 80 column printout

Printout Contents for Job Matching Systems

JPMS	LMS	OASYS	ValSEARCH	VARS	VIPS	Work-Match
20	1,573	3 using search criteria #1	54	N/A	53	22
1000	12,375 DOT 503 Census Codes	12,375	12,375	12,375	12,375	1,275
job history	client profile	profile from job history; current profile	client profile	past relevant work exper; physical limitations; age/education	job history descriptions; profile from job history; profile adjustment; comments	profile from job history
variables named	none	some variables named	variables named	few codes reported N/A	variables named and explained	none
DOT Titles/Codes; GED; Aptitudes; Strength; Physical Demands; Envir. Cond.; Bi-Polar Interests; Temperaments; GOE Difficulty Index	Census Codes; SVP; GED; Apt.; Wages; DOT Code; Environmental Matches; Pre-Post	DOT Titles/Codes; GED; Phys. Demands; Environmental; SVP; Aptitudes; GOE	DOT Titles/Codes; Record Number; GED; Aptitudes	none	User selects up to 80 columns from standard variables (e.g., DOT Titles/Codes, GED, MPSMS, Work Fields, SVP	DOT Titles/Codes; Holland Codes; GED; SVP; Aptitudes; Physical Demands; Environmental Conditions; DOT Page #; GOE; Work Fields; Temperaments
none	Pre-Access/Post-Access Number of Jobs	detailed job profile	none	disability decision; vocational decision rationale	OES survey; local job matches; schools	none

The final section of Table 2 lists other useful data found on the printout. Only CompuJOBS, DataMaster III, JPMS, ValSEARCH and Work-Match contain no additional data. VOCOMP, JOBS and VIPS contain data on possible jobs and training opportunities. The LMS offers a final table comparing pre-injury and post-injury earnings and number of jobs available. CCAPP prints forms for further student use, and OASYS contains a detailed client profile. Finally, VARS prints a disability decision, complete with references.

Conclusion

This rather brief study was an attempt to objectively compare 13 computerized job matching systems. The vehicle was the very common problem of a disabled worker with a low-back injury. Tables 1 and 2 contain a summary of the most important user features. The data on these tables are intended to enable the reader to select what he/she considers the most important features of each system. The question will still be asked by the reader "Which of these systems is best?". To be very blunt, there is no single answer because there is no single best system. "Best" depends on how the systems fits into your program, your needs and how you intend to use the program.

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Contains 15 separate job and worker classification codes together with explanations. Includes: OGA, DPT, Industrial Designation, Work Fields, MPSMS, SIC, SOC, Census Codes, GED, SVP, Aptitudes, Physical Demands, Environmental Conditions, Bi-Polar Interests and GOE Interests.

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Contains Physical Demands, Environmental Conditions, GED, SVP, Aptitudes, Bi-Polar Interests, Temperaments, GOE, Industrial Designation, MPSMS, Work Field, CIP, SOC, SIC and OES for each job in the DOT. The manual contains crosswalks between the DOT code and the following: GOE, Industrial Designation, MPSMS, Work Field, CIP, Census, SIC and OES. Available from VDARE Service Bureau, Inc., P.O. Box 1945, Athens, Georgia 30603.

Harrington, T. F., & O'Shea, A. J. (Eds.). (1984). Guide for occupational exploration (second edition). (Originally published by the U.S. Department of Labor in 1979). Circle Pines, MN: American Guidance Service.

Contains explanations of GOE job classification by interest groups and classifies all jobs in the DOT by a six digit code. Cross-references all jobs to DOT nine digit codes. Available from: American Guidance Service, Publishers' Building, Circle Pines, Minnesota 55014.

McCroskey, B. J., & Perkins, E. (1981). The manual for the McCroskey Vocational Quotient System. St. Cloud, MN: Vocationology, Inc.

Contains the GOE, Aptitudes, SVP, GED, Physical Demands, Environmental Conditions, Bi-Polar Interests, and GED for all jobs in the DOT. Also contains the concept of the disability index. Note that some code values are reversed from the DOT codes. Order from: Dr. Eugene Perkins, Career Development Specialists, 1625 Ninth Ave, South East, St. Cloud, Minnesota 56301, or Dr. Billy McCroskey, Vocationology, 2101 Hennepin Avenue, South, Minneapolis, Minnesota, 55405.

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Contains explanation and details of the SIC Codes.

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Contains step-by-step instructions for counselors, evaluators, etc. on how to use the DOT to plan vocational rehabilitation services. This publication should be studied by all persons not familiar with the DOT. Available from the Materials Development Center.

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Contains explanation and details of the SOC codes.

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U.S. Department of Labor. (1972). Handbook for analyzing jobs. Washington, DC: Government Printing Office.

Contains the job analysis procedures used to develop the fourth edition of the DOT and all related documents. Includes complete explanations of all codes, each with numerous examples. Available from the Government Printing Office.

U.S. Department of Labor. (1977). The Dictionary of Occupational Titles (fourth edition). Washington, DC: Government Printing Office.

Contains job titles and job definitions of 12,098 jobs in the national economy. This is the basic source of job definitions and data on jobs. Also contains explanations of OGA, D-P-T, and Industrial Designations. Available from the Government Printing Office, Use Stock Number 029-013-000-79-9.

U.S. Department of Labor. (1981). *Selected characteristics of occupations defined in the dictionary of occupational titles*. Washington, DC: Government Printing Office.

Contains all DOT job definitions by GOE code, Physical Demands, Environmental Conditions, Mathematics, Language and SVP. A second section lists Strength by DOT code. Available from the Government Printing Office.

U.S. Department of Labor. (1982). *A guide to job analysis*. Menomonie, WI: Materials Development Center.

Contains revised procedures for job analysis. This new publication is a complete revision of the 1972 *Handbook* and many of the definitions and examples are much clearer. Available from the Materials Development Center.

U.S. Department of Labor. (1982). *Dictionary of occupational titles, fourth edition supplement*. Washington, DC: Government Printing Office.

Contains about 288 job definitions not included in the fourth edition of the DOT. The format is identical to the DOT. In addition, each job definition is followed by: GOE Code, Physical Demands, Environmental Conditions, GED, SVP and SOC Codes.

Williamson, A. (1986). Technology and training eligibility: The "fuzzy " logic approach to computerized vocational choice. In C. Smith (Ed.). *Discovery III: Training and technology for the disabled, conference papers*. Menomonie, WI: Materials Development Center and Office of Continuing Education and Summer Session.

Winefordner, D. W. (1978). *Worker trait group guide*. Bloomington, IL: McKnight Publishing Company.

Addresses

Superintendent of Documents
U.S. Government Printing Office
Washington, D.C. 20402

Materials Development Center
University of Wisconsin - Stout
Menomonie, WI 54751

Glossary of Computer and Job Analysis Terms

Aptitudes - The specific capacity or ability required of a person in order to facilitate the learning of a job or task. Job analysis using the U.S. Department of Labor method collects data on 11 aptitudes: G - General Learning Ability; V - Verbal; N-Numerical; S - Spatial Perception; P - Form Perception; Q - Clerical Perception; K-Motor Coordination; F - Finger Dexterity: M - Manual Dexterity: E - Eye-Hand-Foot Coordination; and C - Color Discrimination. In job analysis these aptitudes are rated on a five point scale.

Bi-Polar Interests - See Interests.

Bit - A Binary digit, the smallest storage unit for data in a computer.

Byte - The amount of space needed to store a single character, such as a number letter, or code.

Classification of Instructional Programs (CIP) - Provides a common language for educational programs, from elementary programs to post-doctorate. A three level, six digit classification system is used. Fifty broad program areas are classified, such as: Precision Production, Allied Health, Business and Office, and Communication Technologies.

Continuous Feed (or Forms) - Perforated computer paper that is automatically fed into a printer. Most computers use continuous feed paper.

Crosswalk - The process of "translating" from one job classification code to another. Most commonly in job matching systems, the DOT code is translated to the nearest corresponding SIC, SOC or Census Code. Crosswalks are of critical importance when moving from one data base to another.

CRT - Cathold Ray Tube; see Monitor.

Data-People-Things (DPT) - The middle three digits of the DOT Code, indicates the complexity of a job in relation to three separate hierarchies of Data, People and Things.

Disk Drive - A device that records and plays back information much the same as a cassette tape player records and plays music.

Diskette (or Floppy Disk) - The flat, removable disk that is inserted into a disk drive. These are usually 5 and 1/4 inches and look similar to a 45 rpm record. The computer records and retrieves information from the floppy disk.

DOS (or Disk Operating System) - A software system that directs the flow of information between the computer and disk drives. DOS must be first be activated before a program can be run.

Environmental Conditions - The physical surroundings of the job that make specific demands on the worker's physical capacity. As with physical demands, there are two separate classification systems. The Handbook includes the following factors: work location (i.e., inside, outside or both); extreme cold; extreme heat; wet and/or humid; noise and/or vibration; hazards and atmospheric conditions.

Floppy Disk - See Diskette.

General Educational Development (GED) - Those aspects of both formal and informal education contributing to the worker's Reasoning, Mathematical, and Language skills. These are considered basic skills needed in some degree in all jobs. Reasoning and Mathematical are divided into six areas; language into five.

Guide to Occupational Exploration Codes (GOE) - See Interests.

Hard Disk - A rigid disk, either built into the computer or attached as an external item, used to store large amounts of data.

Industrial Designation - This DOT based classification is intended to classify jobs by the selection of the economy in which they appear. Some examples are: Hotel & Restaurant, Machine Shop, Education, Textile, Electroplating, and Stonework.

Interests - Interests are a liking or preference for an activity. There are two methods for classifying interests in the DOL job analysis methodology. The first is using the codes given in the Guide to Occupational Exploration; the 12 general classifications are: Artistic, Scientific, Plants and Animals, Protective, Mechanical, Industrial, Business Detail, Selling, Accommodating, Humanitarian, Leading-Influencing, and Physical Performing. The second method is to use the Bi-Polar Interest factors; if one of the pair is selected the other, by definition, cannot be chosen. There are five pairs of factors: things and objects vs. communication of data; business contact with people vs. scientific and technical activities; routine, concrete, organized activities vs. abstract and creative activities; presumed good of people vs. tangible production.

Job Classification Codes - Also called job characteristics or "work performed" codes, this is a general name for the seven common ways of classifying and organizing individual jobs: Occupational Groups Arrangement; Data-People-Things; Industrial Designation; Work Fields; Materials, Products, Subject Matter, and Services; Standard Industrial Classification, Standard Occupational and Census Codes.

K (Kb or Kilobytes) - 1024 bytes of information or storage space. The storage capacity of a computer, floppy disks and hard disks are usually given in terms of K. For example, a 64 K computer, holds 65,536 bytes of data.

Materials, Products, Subject Matter and Services (MPSMS) - These are: (1) basic materials being processed, such as fabric, metal and wood; (2) final products being made, cultivated, harvested, or captured, such as fish, field crops and automobiles; (3) data, when being dealt with or applied, such as in economics and physics; and (4) services being provided, such as barbering and dentistry. MPSMS is important in the transfer of skills.

Memory (RAM) - The working space or temporary storage for the program you are using. Memory is erased when the computer is turned off.

Menu - A list of program options on the screen that allows the user to select a specific command or function.

Modem - A device used to connect a computer with a telephone line and, hence, to another computer.

Monitor (CRT) - The TV-like screen on which information is displayed.

Occupational Groups Arrangement (OGA) - The first three numbers of the DOT code. These are three levels of groupings of jobs from general to specific. All jobs in the DOT are grouped into nine major Categories, 82 two digit Divisions, and 559 three digit Groups.

Occupational Employment Statistics (OES) - This is a state-federal program designed to produce national, state and area data on current and projected employment. The program is supervised by the Bureau of Labor Statistics. Survey data are collected on a three year cycle. All non-farm, forestry and fishing industries are included. Each job surveyed is an eight digit matrix code.

Parallel Printer - A type of printer plugged into a parallel port on the computer.

Physical Demands - These are the physical requirements made of the worker by the specific job-worker situation. There are two separate classification systems for physical demands (i.e., A Handbook for Analyzing Jobs and A Guide to Job Analysis). The Handbook includes six separate factors: Strength (sedentary, light, medium, heavy and very heavy); climbing and/or balancing/stooping, kneeling, crouching, and/or crawling; reaching, handling, fingering, and/or feeling; talking and/or hearing; and seeing. Strength is sometimes treated as a separate variable. Physical Demands are also called "Physical Limitations."

Port - A connection device between a computer and another component, such as a printer. Ports are either serial or parallel.

RAM (Random Access Memory) - See Memory.

ROM (Read Only Memory) - The area of the computer memory that is used to permanently store the information vital to computer operation. ROM is not lost when the computer is turned off.

Serial Printer - A type of printer plugged into a serial port on a computer.

Software - Instructions that make computer hardware perform specific jobs. Most software is contained on floppy disks and/or hard disks.

Specific Vocational Preparation (SVP) - The amount of time required to learn the techniques, acquire information and develop the facility needed for average performance in a specific job-worker situation. This training may be acquired in a school, work, military, institutional, or a vocational environment. There are nine levels of SVP, ranging from a "short demonstration only" to "over 10 years."

Standard Occupational Classification (SOC) - Developed by the Office of Federal Statistical Policy and Standards to "provide a mechanism for cross-referencing and aggregating occupations -- related data collected by social and economics statistical reporting programs." SOC uses a four level classification system and covers all work for pay or profit. Some of the major classifications are: Marketing and Sales Occupations; Clerical Occupations; Construction and Extractive Occupations; and Production Working Occupations.

Census Codes - These are codes used by the U.S. Census Bureau to classify occupa-

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tions in the national economy. Occupations by geographical areas are reported in publications such as the County Business Patterns.

Standard Industrial Classification (SIC) - This job classification system was developed by the Office of Management and Budget "to promote the comparability of statistics describing various facets of the economy of the nation." SIC codes center on Establishments, which are separate, physically definable, places of business or service. Some of the major classifications are: mining, manufacturing, retail trade, service and public administration. The SIC uses a four level classification system.

Strength - See Physical Demands.

Temperaments - Adaptability requirements made on workers by specific types of jobs. Like physical demands and environmental conditions, there are two slightly different lists of temperaments. The following temperaments are from the Handbook for Analyzing Jobs: interpretation of feelings; influencing people; making evaluations on sensory or judgmental criteria; responsibility for direction; making decisions on measurable criteria; dealing with people; repetitive; performing under stress; precise attainment of set limits; and variety of duties.

Work Fields (WF) - This classification was developed by the U.S. Department of Labor as part of its data collection of job analyses. The 94 Work Fields "range from specific to the general and are organized into homogeneous groups, based on related technologies or objectives, such as the movement of materials, the fabrication of products, the use of data, and the provision of services." Work Fields play an important role in transfer of skills.

Worker Classification Codes - "Job analysis components which reflect worker attributes that contribute to successful job performance, with regard to the work activities themselves and the environment in which they are performed" (DOL, 1982, P. 9). These codes are the same as those in the Worker Trait Profile.

Worker Trait Profile - The combination of the values assigned to all or some of the following variables: GED, SVP, Aptitudes, Physical Demands, Bi-Polar Interests, GOE Interests, Environmental Conditions or Temperaments. In job matching systems, these variables are often used as the basis for a job search.

Appendix - Sample Printouts of Test Case

Due to space limitations, the entire printout for most of the job matching systems is not reproduced in this appendix. The examples that follow were selected to present either the most important of each printout or examples of the many types of output available for a specific program.

CHOICES

3033000 PHYSICAL THERAPIST

GIVES TREATMENT TO HELP RELIEVE PATIENTS' PAIN AND RESTORE THEIR PHYSICAL HEALTH. WORKS WITH HANDICAPPED, ACCIDENT VICTIMS, CHILDREN, OR OLDER PEOPLE. USES LIGHT, HEAT, WATER, ELECTRICITY, AND EXERCISE PROGRAMS. EVALUATES PATIENTS' PROGRESS.

RELATED EDUCATIONAL PROGRAM: PHYSICAL THERAPY TECHNOLOGY. LICENSE IS REQUIRED.

EMPLOYERS: HOSPITALS; REHABILITATION CENTERS; CLINICS; NURSING HOMES; MEDICAL RESEARCH CENTERS; DOCTORS' OFFICES; MILITARY SERVICES.

SOURCE OF ADDITIONAL INFORMATION: AMERICAN PHYSICAL THERAPY ASSN.; 1111 N. FAIRFAX ST.; ALEXANDRIA, VA. 22314.

TOPIC

1 EDUCATION

5 UNDERGRADUATE DEGREE; FURTHER SPECIALIZATION ADVANTAGEOUS.

2 WORK SITE

1 INSIDE

3 PHYS. DEMANDS

2 MEDIUM (25 LBS TO 50 LBS)

4 TEMPERAMENTS

1 MANY CHANGING DUTIES
4 TAKING RESPONSIBILITY
5 GAINING COOPERATION
6 INFLUENCING OPINIONS
8 DECISIONS BASED ON PERSONAL KNOWLEDGE
9 DECISIONS BASED ON CONCRETE EVIDENCE

5 EARNINGS

7 $18,000 TO $31,499 PER YEAR

6 APTITUDES

2	G	LEARNING	-TOP THIRD
2	V	VERBAL	-TOP THIRD
3	N	NUMERICAL	-MIDDLE THIRD
2	S	SPATIAL	-TOP THIRD
2	P	FORM	-TOP THIRD
3	Q	CLERICAL	-MIDDLE THIRD
2	K	EYE-HAND	-TOP THIRD
2	F	FINGER	-TOP THIRD
2	M	MANUAL	-TOP THIRD

7 INTERESTS

2 BUSINESS CONTACT WITH PEOPLE
4 WORKING TO IMPROVE SOCIAL CONDITIONS
6 STUDYING OR COMMUNICATING IDEAS
7 SCIENTIFIC OR TECHNICAL WORK

8 FUTURE OUTLOOK

1 INCREASING

9 HOLLAND CODES

S SOCIAL
I INVESTIGATIVE
E ENTERPRISING

10 CAREER FIELD

29 NURSES, DIETICIANS, THERAPISTS, AND PHYSICIANS ASSISTANTS

11 PHYS. ACTS.

1 LIFTING
3 PUSHING/PULLING
9 SPEAKING
11 SEEING

12 HOURS OF WORK

2 IRREGULAR HOURS
3 WEEKEND WORK

13 ENVIRONMENT

6 DUST, FUMES, ODORS, POOR VENTILATION

14 TRAINING

8 BETWEEN 2 AND 4 YEARS

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                       15 SIMILAR OCCS.

3031000  RESPIRATORY THERAPIST
3032100  OCCUPATIONAL THERAPIST
3034000  AUDIOLOGIST
3034100  SPEECH PATHOLOGIST
3039100  RECREATIONAL THERAPIST
5233400  PHYSICAL THERAPY ASSISTANT
         OOH PAGE 116: MCG PAGE 71: DOT 076
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Computer Assisted Vocational Rehabilitation Counseling (VOCOMP)

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1 COPYRIGHT RESYS BUSINESS SYSTEMS 1984.               V O C O M P                         ATSA - HO
                                              O U T P U T   A N A L Y S I S
0  CLIENT: RALPH J. ANDERSON                                                                        DATE:  860619    PAGE      1
   CLIENT CODE:MKT6666666             STREET ADDRESS:                              CITY/STATE: *              LA
   BIRTHDATE: 00/00/00   SEX:         TELEPHONE(AREA CODE): (504) 000-0000  ZIP CODE: 70123             CATEGORIES/JOBS: 10010
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  CLIENT'S WORK HISTORY JOB # 1          CLIENT'S WORK HISTORY JOB # 2             CLIENT'S WORK HISTORY JOB # 3
  TANK-TRUCK DRIVER                      TRACK REPAIRER                            LOGGER,ALLROUND

                                                                                START  JOB MARKET
     -CLIENT WORK HISTORY JOBS-                      -INDUSTRY-                 SALARY TREND                          DOT CODE
    1.TANK-TRUCK DRIVER                              TRANSPORTATION                   *STABLE                     903.683.018
    2.TRACK REPAIRER                                 TRANSPORTATION                   *CONTRACTING                910.682.010
    3.LOGGER,ALLROUND                      MFG: WOOD, SAWMILL, CORK                   *CONTRACTING                454.684.018

                                         -TRAINING OPPORTUNITIES-
    1.FORMAL VOCATIONAL TRAINING REQUIRED
    2.ON-THE-JOB TRAINING REQUIRED
    3.ON THE JOB TRAINING REQUIRED
 * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
   OCCUPATIONAL CATEGORY: TYPING AND RELATED RECORDING                          START  JOB MARKET
  100         -SELECTED VOCATIONS-                   -INDUSTRY-                 SALARY TREND                          DOT CODE
    1.CREDIT CARD CLERK                              RETAIL TRADE                     *CONTRACTING  GRADE LEVEL  133%  209.587.014
                                                                                                    VOC TRG TIME 125%
                                         -TRAINING OPPORTUNITIES-                                   APTITUDES    100%
    1.ON THE JOB TRAINING REQUIRED                                                                  INTERESTS    100%
                                                                                                    BEHAVIORAL   100%
                                                                                                    PHY CAPACITY 100%
                                                                                                    ENV RESTRICT 100%
                                                                                                    RAW COMPOSIT: 100
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   OCCUPATIONAL CATEGORY: OPERATING AND CONTROLLING-TEXTILES,PAPER,WOOD,SAWMILL  START  JOB MARKET
  100         -SELECTED VOCATIONS-                   -INDUSTRY-                 SALARY TREND                          DOT CODE
    1.KNIFE GRINDER, MACH SHOP             MFG: METALWORKING & REFIN                  *CONTRACTING  GRADE LEVEL  100%  603.682.014
                                                                                                    VOC TRG TIME 100%
                                         -TRAINING OPPORTUNITIES-                                   APTITUDES    100%
                                                                                                    INTERESTS    100%
                                                                                                    BEHAVIORAL   100%
                                                                                                    PHY CAPACITY 100%
                                                                                                    ENV RESTRICT 100%
                                                                                                    RAW COMPOSIT: 100
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   OCCUPATIONAL CATEGORY: ROUTINE CHECKING AND RECORDING                        START  JOB MARKET
  100         -SELECTED VOCATIONS-                   -INDUSTRY-                 SALARY TREND                          DOT CODE
    1.LUMP INSPECTOR,TOBACCO                         AGRICULTURE                                    GRADE LEVEL  133%  790.687.018
    2.WRONG ADDRESS CLERK                            RETAIL TRADE                                   VOC TRG TIME 167%  209.587.050
    3.TICKET MARKER                                  RETAIL TRADE                     *CONTRACTING  APTITUDES    100%  216.567.010
                                                                                                    INTERESTS    100%
                                         -TRAINING OPPORTUNITIES-                                   BEHAVIORAL   100%
    1.ON THE JOB TRAINING REQUIRED                                                                  PHY CAPACITY 100%
    2.ON THE JOB TRAINING REQUIRED                                                                  ENV RESTRICT  N/A
    3.ON THE JOB TRAINING REQUIRED                                                                  RAW COMPOSIT: 100
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1 COPYRIGHT RESYS BUSINESS SYSTEMS 1984.               V O C O M P                         ATSA - HO
                                              O U T P U T   A N A L Y S I S
0  CLIENT: RALPH J. ANDERSON                                                                        DATE:  860619    PAGE      2
   CLIENT CODE:MKT6666666             STREET ADDRESS:                              CITY/STATE: *              LA
   BIRTHDATE: 00/00/00   SEX:         TELEPHONE(AREA CODE): (504) 000-0000  ZIP CODE: 70123             CATEGORIES/JOBS: 10010
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   OCCUPATIONAL CATEGORY: INSPECTING AND STOCK CHECKING                          START  JOB MARKET
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100        -SELECTED VOCATIONS-                    -INDUSTRY-                SALARY TREND                                 DOT CODE
    1.INSPECTOR, POISING                       MFG: CLOCK & WATCH                                   GRADE LEVEL  133%  715.384.013
                                                                                                    VOC TRG TIME 125%
                                          -TRAINING OPPORTUNITIES-                                  APTITUDES    100%
    1.ON THE JOB TRAINING REQUIRED                                                                  INTERESTS    100%
                                                                                                    BEHAVIORAL    67%
                                                                                                    PHY CAPACITY 100%
                                                                                                    ENV RESTRICT  N/A
                                                                                                    RAW COMPOSIT: 100
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  OCCUPATIONAL CATEGORY: SORTING,INSPECTING,MEASURING AND RELATED WORK       START  JOB MARKET
  100          -SELECTED VOCATIONS-                -INDUSTRY-                SALARY TREND                                 DOT CODE
    1.INSPECTOR, SHIPPING                          AGRICULTURE               16,534                 GRADE LEVEL  133%  801.667.010
    2.GAGER                                    MFG: CLOCK & WATCH                                   VOC TRG TIME 125%  715.687.034
    3.INSPECTOR, TIMING                        MFG: CLOCK & WATCH                                   APTITUDES    100%  715.685.034
    4.UPPER-LEATHER SORTER, BOOT & SHOE        MFG: LEATHER                                         INTERESTS    100%  788.387.010
    5.MEASURER                                 MFG: METALWORKING & REFIN                            BEHAVIORAL   100%  369.487.010
    6.FRESH-WORK INSPECTOR, TOBACCO                AGRICULTURE                                      PHY CAPACITY 100%  529.687.090
    7.CIGAR PACKER                                 AGRICULTURE                                      ENV RESTRICT  N/A  790.687.014
    8.CIGARETTE INSPECTOR                          AGRICULTURE                                      RAW COMPOSIT: 100  529.567.010
    9.ODD-SHOE EXAMINER                        MFG: LEATHER                                                            788.667.010

                                          -TRAINING OPPORTUNITIES-

    1.ON THE JOB TRAINING REQUIRED
    2.ON THE JOB TRAINING REQUIRED
    3.ON THE JOB TRAINING REQUIRED
    4.ON THE JOB TRAINING REQUIRED
    5.ON THE JOB TRAINING REQUIRED
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1 COPYRIGHT RESYS BUSINESS SYSTEMS 1984.                   V O C O M P                      ATSA - HO
                                              O U T P U T   A N A L Y S I S
-0  CLIENT: RALPH J. ANDERSON                                                                   DATE: 860619    PAGE     3
   CLIENT CODE:MKT6666666               STREET ADDRESS:                        CITY/STATE: *             LA
   BIRTHDATE: 00/00/00    SEX:          TELEPHONE(AREA CODE): (504) 000-0000   ZIP CODE: 70123        CATEGORIES/JOBS: 10010
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   OCCUPATIONAL CATEGORY: MANIPULATING                                       START  JOB MARKET
  100          -SELECTED VOCATIONS-                 -INDUSTRY-               SALARY TREND                                 DOT CODE
    1.WRAP TURNER,BOOT&SHOE                    MFG: LEATHER                                         GRADE LEVEL  133%  788.685.030
    2.SAMPLE SHOE INSPECTOR&REWORKER           MFG: LEATHER                                         VOC TRG TIME 167%  788.684.098
    3.PULLER-OVER,MACHINE,BOOT&SHOE            MFG: LEATHER                                         APTITUDES    100%  788.684.090
    4.OUTSIDE-CUTTER,HAND,BOOT&SHOE            MFG: LEATHER                                         INTERESTS    100%  788.684.082
    5.CLICKING-MACHINE OPERATOR                MFG: LEATHER                                         BEHAVIORAL   100%  789.382.010
    6.BINDING FOLDER,MACHINE,BOOT&SHOE         MFG: LEATHER                                         PHY CAPACITY 100%  788.684.018
    7.BED LASTER,BOOT&SHOE                     MFG: LEATHER                                         ENV RESTRICT  N/A  690.682.018
    8.ASSEMBLER FOR PULLER-OVER,HAND,BOOT&SHOE MFG: LEATHER                                         RAW COMPOSIT: 100  788.684.010
    9.JEWEL-BEARING TURNER,JEWELRY                 CRAFTS                                                              770.682.022

                                          -TRAINING OPPORTUNITIES-

    1.ON THE JOB TRAINING REQUIRED
    2.ON THE JOB TRAINING REQUIRED
    3.ON THE JOB TRAINING REQUIRED
    4.ON THE JOB TRAINING REQUIRED
    5.ON THE JOB TRAINING REQUIRED
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    8.ON THE JOB TRAINING REQUIRED
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     9.ON THE JOB TRAINING REQUIRED
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   OCCUPATIONAL CATEGORY: CLASSIFYING,FILING AND RELATED WORK                    START  JOB MARKET
   99       -SELECTED VOCATIONS-                     -INDUSTRY-                  SALARY TREND                             DOT CODE
     1.FILM RENTAL CLERK                             RETAIL TRADE                                     GRADE LEVEL  100%  295.367.018
                                                                                                      VOC TRG TIME 125%
                                          -TRAINING OPPORTUNITIES-                                    APTITUDES    100%
                                                                                                      INTERESTS     67%
                                                                                                      BEHAVIORAL   100%
                                                                                                      PHY CAPACITY 100%
                                                                                                      ENV RESTRICT 100%
                                                                                                      RAW COMPOSIT:  99
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1 COPYRIGHT RESYS BUSINESS SYSTEMS 1984.                   V O C O M P                     ATSA - HO
                                                  O U T P U T   A N A L Y S I S
0  CLIENT: RALPH J. ANDERSON                                                                          DATE:  860619     PAGE     4
   CLIENT CODE:MKT6666666             STREET ADDRESS:                       CITY/STATE: *                   LA
   BIRTHDATE:-00/00/00   SEX:         TELEPHONE(AREA CODE): (504) 000-0000 ZIP CODE: 70123              CATEGORIES/JOBS: 10010
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   OCCUPATIONAL CATEGORY: INSPECTING AND STOCK CHECKING                          START  JOB MARKET
   99       -SELECTED VOCATIONS-                     -INDUSTRY-                  SALARY TREND                             DOT CODE
     1.STOREKEEPER                                   RETAIL TRADE                      *EXPANDING     GRADE LEVEL  133%  222.387.062
     2.COMPLAINT CLERK                          MFG: LEATHER                                          VOC TRG TIME 125%  221.387.014
     3.INSPECTOR AND SORTER                     MFG: LEATHER                                          APTITUDES    100%  589.357.010
     4.FUR-REPAIR INSPECTOR                          RETAIL TRADE                                     INTERESTS    100%  783.387.010
     5.FINISHING INSPECTOR,ELEC.EQUIP           MFG: ELECTRONIC EQUIPMENT                             BEHAVIORAL    67%  729.387.018
     6.BATTERY TESTER                           MFG: ELECTRONIC EQUIPMENT                             PHY CAPACITY 100%  727.384.010
     7.GREEN INSPECTOR                          MFG: ELECTRONIC EQUIPMENT                             ENV RESTRICT  N/A  726.367.010
     8.GEAR-SORING-AND-INSPECTING MACHINE OPER  MFG: METALWORKING & REFIN                             RAW COMPOSIT:  99  602.362.014
     9.FURNACE-STOCK INSPECTOR                  MFG: ELECTRONIC EQUIPMENT                                                559.364.010

                                          -TRAINING OPPORTUNITIES-
     1.NEW ORLEANS REGIONAL VOC-TECH INST  980 NAVARRE AVE      NEW ORLEANS     LA 70124 504/483-4666
     2.ON THE JOB TRAINING REQUIRED
     3.ON THE JOB TRAINING REQUIRED
     4.ON THE JOB TRAINING REQUIRED
     5.ON THE JOB TRAINING REQUIRED
     6.ON THE JOB TRAINING REQUIRED
     7.ON THE JOB TRAINING REQUIRED
     8.ON THE JOB TRAINING REQUIRED
     9.ON THE JOB TRAINING REQUIRED
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   OCCUPATIONAL CATEGORY: OPERATING AND CONTROLLING                              START  JOB MARKET
   94       -SELECTED VOCATIONS-                     -INDUSTRY-                  SALARY TREND                             DOT CODE
     1.ELECTRICAL-DISCHARGE-MACHINE OPERATOR PROMFG: ELECTRONIC EQUIPMENT                             GRADE LEVEL  100%  609.482.010
     2.DEBURRER, STRIP, CLOCK AND WATCH         MFG: CLOCK & WATCH                                    VOC TRG TIME 100%  603.482.010
     3.GRINDER SET UP OPERATOR, GEAR, TOOL      MFG: METALWORKING & REFIN              *CONTRACTING   APTITUDES     90%+ 602.360.010
                                                                                                      INTERESTS    100%
                                          -TRAINING OPPORTUNITIES-                                    BEHAVIORAL   100%
                                                                                                      PHY CAPACITY 100%
                                                                                                      ENV RESTRICT  N/A
                                                                                                      RAW COMPOSIT:  94
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
   OCCUPATIONAL CATEGORY: CALCULATING AND RELATED RECORDING                      START  JOB MARKET
   90       -SELECTED VOCATIONS-                     -INDUSTRY-                  SALARY TREND                             DOT CODE
     1.LAUNDRY PRICING CLERK                         RETAIL TRADE                                     GRADE LEVEL  100%  216.482.030
     2.ESTIMATOR,JEWELRY                             CRAFTS                                           VOC TRG TIME 125%  221.337.022
                                                                                                      APTITUDES     80%
                                          -TRAINING OPPORTUNITIES-                                    INTERESTS    100%
                                                                                                      BEHAVIORAL   100%
```

```
                                                                                   PHY CAPACITY 100%
                                                                                   ENV RESTRICT  N/A
                                                                                   RAW COMPOSIT:  90
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
1 COPYRIGHT RESYS BUSINESS SYSTEMS 1984.            V O C O M P                 ATSA - HO
                                           O U T P U T   A N A L Y S I S
0  CLIENT: RALPH J. ANDERSON                                                           DATE:  860619     PAGE      5
   CLIENT CODE:MKT6666666              STREET ADDRESS:                       CITY/STATE: *                 LA
   BIRTHDATE: 00/00/00   SEX:          TELEPHONE(AREA CODE): (504) 000-0000  ZIP CODE: 70123         CATEGORIES/JOBS: 10010
 * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
                                                 SELECTED EMPLOYERS
0CREDIT CARD CLERK                        209.587.014                                            SIC 5311 5541
0     BLANCHE MAISON                     901 CANAL                  NEW ORLEANS          LA 70112  504/522-3434 ID# D87360 SIC 5311
      D H HOLMES CO LTD                  224 N RAMPART              NEW ORLEANS          LA 70112  504/523-7203 ID# D88087 SIC 5311
      D H HOLMES CO LTD                  819 CANAL                  NEW ORLEANS          LA 70112  504/561-6611 ID# D88089 SIC 5311
      KRAUSS CO LTD                      1201 CANAL                 NEW ORLEANS          LA 70112  504/523-3311 ID# D88579 SIC 5311
      H L GREEN                          1436 DRYADES               NEW ORLEANS          LA 70113  504/523-3164 ID# D89605 SIC 5311
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
0KNIFE GRINDER, MACH SHOP                 603.682.014                                            SIC 3451 3914
0     NO EMPLOYERS WERE FOUND THAT MATCH THIS SIC AND ZIP
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
0LUMP INSPECTOR,TOBACCO                   790.687.018                                            SIC 2141 5194
0     G & F WHOLESALE TOBACCO INC        1231 DECATUR               NEW ORLEANS          LA 70116  504/525-2245 ID# D92602 SIC 5194
      U KOEN & CO INC                    2838 ELYSIAN FIELDS AV     NEW ORLEANS          LA 70122  504/944-2471 ID# D98486 SIC 5194
      SAUL STREIFFER & CO INC            1114 JOSEPHINE             NEW ORLEANS          LA 70130  504/522-9327 ID# E04910 SIC 5194
      DALFERES CIGAR & TOBACCO CO        136 E CYPRESS              LAFAYETTE            LA 70501  318/234-1425 ID# E36568 SIC 5194
      ESTATE OF SAMUEL SCOTOLA           800 LAFAYETTE              LAFAYETTE            LA 70501  318/234-1677 ID# E36686 SIC 5194
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
0WRONG ADDRESS CLERK                      209.587.050                                            SIC 5311 5541 5411
0     BLANCHE MAISON                     901 CANAL                  NEW ORLEANS          LA 70112  504/522-3434 ID# D87860 SIC 5311
      D H HOLMES CO LTD                  224 N RAMPART              NEW ORLEANS          LA 70112  504/523-7203 ID# D88087 SIC 5311
      D H HOLMES CO LTD                  819 CANAL                  NEW ORLEANS          LA 70112  504/561-6611 ID# D88089 SIC 5311
      KRAUSS CO LTD                      1201 CANAL                 NEW ORLEANS          LA 70112  504/523-3311 ID# D88579 SIC 5311
      H L GREEN                          1436 DRYADES               NEW ORLEANS          LA 70113  504/523-3164 ID# D89605 SIC 5311
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
0TICKET MARKER                            216.567.010                                            SIC 5159 5194
0     BRENNAN INSTITUTIONAL SUPPLY       1076 S GAYOSO              NEW ORLEANS          LA 70125  504/822-2910 ID# D99972 SIC 5159
      LOUISIANA SUGAR CANE PRODUCT       610 POYDRAS                NEW ORLEANS          LA 70130  504/524-5364 ID# E04319 SIC 5159
      STEINBERG S CO                     527 DECATUR                NEW ORLEANS          LA 70130  504/523-1395 ID# E05082 SIC 5159
      WHOLESALE FISH & FUR CO INC        1550 SCENIC HWY            BATON ROUGE          LA 70802  504/343-9735 ID# E67800 SIC 5159
      G & F WHOLESALE TOBACCO INC        1231 DECATUR               NEW ORLEANS          LA 70116  504/525-2245 ID# D92602 SIC 5194
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
0INSPECTOR, POISING                       715.384.018                                            SIC 3873 7631
0     COOPER & CO INC                    931 CANAL                  NEW ORLEANS          LA 70112  504/525-7109 ID# D88019 SIC 7631
      G FLETCHER                         914 CANAL                  NEW ORLEANS          LA 70112  504/522-7595 ID# D88281 SIC 7631
      JOE ESCOBAR JEWELRY CO             931 CANAL                  NEW ORLEANS          LA 70112  504/522-7667 ID# D88521 SIC 7631
      NICOSIA MFG                        930 CANAL                  NEW ORLEANS          LA 70112  504/523-1253 ID# D88811 SIC 7631
      PETER NIETO                        BRUNING BLDG               NEW ORLEANS          LA 70112  504/523-5520 ID# D88812 SIC 7631
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
0INSPECTOR, SHIPPING                      901.667.010                                            SIC 3523
1 COPYRIGHT RESYS BUSINESS SYSTEMS 1984.            V O C O M P                 ATSA - HO
                                           O U T P U T   A N A L Y S I S
0  CLIENT: RALPH J. ANDERSON                                                           DATE:  860619     PAGE      6
   CLIENT CODE:MKT6666666              STREET ADDRESS:                       CITY/STATE: *                 LA
   BIRTHDATE: 00/00/00   SEX:          TELEPHONE(AREA CODE): (504) 000-0000  ZIP CODE: 70123         CATEGORIES/JOBS: 10010
 * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
                                                 SELECTED EMPLOYERS
0     ZERINGUE FARM EQUIPMENT CO         HWY 18                     SAINT JAMES          LA 70086  504/265-3951 ID# D86766 SIC 3523
      THOMSON INTL CO                    JACKSON ST                 THIBODAUX            LA 70301  504/447-3771 ID# E06617 SIC 3523
      J & L HONIRON ENGINEERING CO       400 S CANAL                JEANERETTE           LA 70544  318/276-6314 ID# E48033 SIC 3523
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CompuJOBS

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    DPT                                        SCSRTV WCHWNHF RML   GVNSPQKFMEC
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850.683-022  051101  FORM/GRADE OPERATOR    L  4 6 O       321 4 34433534335
361.684-018  060227  SPOTTER II             L  4 6 I       311 3 44543534353
689.684-010  060302  BURLER                 L  4 6 I       312 3 34443443344
511.685-046  060410  REAGENT TENDER         L  4   I       311 4 34444444344
520.685-086  060415  DIVIDING MACHINE OPER  L  4   I       311 3 34443444355
575.685-026  060208  DIE PRESSER            L  4   I       321 3 44433444355
389.684-010  051009  EXTERMINATOR           L  4   I     7 322 5 44444444455
779.684-058  051001  STONE REPAIRER         L  4   I       323 5 34433433354
781.684-026  060231  DRAPER                 L  4 6 I       323 4 34433433354
317.684-010  051008  SALAD MAKER            L  4 6 I       323 5 34444433354
761.684-038  060225  SHAPER/HAND            L  4 6 I       311 4 44434534355
570.685-054  060413  MIXER                  L  4   I     7 211 3 44444443454
585.687-014  060427  CARPET CUTTER 2        L  4 6 I       211 3 44444444355
605.685-034  060202  PLANING MACH. OPERATO  L  4 6 I       211 3 44444434345
652.685-094  060437  TICKET PRINTER/TAGGER  L  4   I       211 2 44444433355
712.684-026  060430  GLAZIER                L  4 6 I       211 2 44443443354
713.684-038  030424  POLISHER/EYEGLASS FRA  S  4 6 I       211 2 44543543455
713.687-034  060424  POLISHER/IMPLANT       S  4 6 I       211 2 44443443354
780.684-046  060422  CUSHION BUILDER        L  4   I       211 3 34444533355
788.684-022  060433  BLEMISH REMOVER        L  4 6 I       211 4 44544533353
920.685-098  060438  TOBACCO PACKING MACH   L  4   I       212 3 34544544355
579.687-030  060302  SELECTOR               L  4 6 I       221 3 44443433354
589.685-010  060416  BOARDING-MACH OP       L  4 6 I       212 3 44444433344
681.685-150  060406  WINDER-OPERATOR AUTOM  L  4   I       211 2 44544533344
690.685-194  060408  GRINDING MACHINE OPER  S  4   I       212 2 44433544455
780.684-126  060427  UPHOLSTERY TRIMMER     L  4   I       212 3 44434433354
788.684-070  060427  INTERLACER             S  4   I       211 2 44543533355
579.687-030  060302  SELECTOR               L  4 6 I       221 3 44443433354
583.685-102  060405  SHAPER AND PRESSER     L  4 6 I       211 2 44443444445
589.685-010  060416  BOARDING MACHINE OPER  L  4 6 I       212 3 44444433344
589.687-014  060427  CLOTH FOLDER/HAND      L  4 6 I       212 2 44444434354
679.687-010  060302  ASBESTOS SHINGLE INSP  S  4   I       211 2 44443444355
724.684-026  060423  COILWINDER             L  4 6 I       222 4 44443433355
780.684-058  060422  EDGE ROLLER            L  4   I       211 3 34444543355
780.684-062  060429  FABRICATOR/FOAM RUBB   L  4 6 I       211 2 44443434355
782.684-062  060227  WEAVER/HAND            L  4 6 I       212 3 34443433354
789.687-146  060302  REMNANT SORTER         L  4   I       211 2 44444434354
550.684-018  060434  PAINT MIXER/HAND       L  4 6 I     7 211 3 44444444353
550.685-106  060411  SEASONING MIXER        L  4   I       222 3 44443444354
689.685-118  060405  SEWING MACHINE OPERAT  L  4 6 I       212 2 44443544354
690.685-174  060405  FOLDER/MACHINE         L  4 6 I       212 3 44444434345
749.687-018  060434  MASKER                 L  4 6 I       211 3 44444544355
784.684-018  060427  CAP MAKER              L  4 6 I       212 4 44443533344
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787.686-010  060404  BAG SEWER              L  4 6 I       211 2 44444533345
788.684-058  060434  HEEL ATTACHER/WOOD     L  4   I       211 4 44543544355
788.684-078  060427  LASTING MACHINE OPERA  L  4   I       211 4 44443534355
523.685-042  060415  COOLING MACHINE OPERA  L  4   I       211 2 44444444455
525.685-030  060415  SKIN PEELING MACH OPE  L  4   I       211 2 44444444355
529.685-062  060415  CIGARETTE-FILTER MAKI  L  4 6 I       211 3 34433444455
532.685-018  060411  EVAPORATOR OPERATOR    L  4 6 I     7 221 2 44444444355
569.685-042  060403  GLUE SPREADER/VENEER   L  4   I       211 3 44443444355
641.685-042  060401  ENDING-MACHINE-OPERAT  L  4   I       211 3 44544543345
669.685-098  060403  VENEER REPAIRER/MACH   L  4 6 I       211 2 44543544335
788.684-086  060427  PULLER & LASTER/MACH   L  4   I       212 3 44543544445
559.685-018  060419  AMPOULE FILLER         L  4   I       211 2 44443444355
559.685-022  060439  AMPOULE-WASHING MACHI  L  4 6 I       211 2 44543533345
559.687-014  060434  AMPOULE SEALER         S  4 6 I       211 2 44544533455
573.685-018  060413  GLAZING-MACHINE OPERA  L  4   I 3     211 2 44444543354
575.685-070  060408  PRESS OPERATOR         L  4   I       211 3 34443544355
641.685-090  060404  STRIPPING-MACHINE OPE  L  4   I       211 2 44444434355
649.685-054  060404  KNOTTING-MACHING OPER  L  4   I       211 2 44444544455
649.685-122  060404  TAPE-FASTENER-MACH O   L  4   I       211 2 44444544345
521.687-122  060428  SHELLFISH SHUCKER      L  4   I       211 3 44544544355
532.686-010  060418  DIGESTER OPERATOR HEL  L  4   I     7 221 2 44444544355
573.686-014  060413  FUSING-FURNACE LOADER  L  4   I       211 2 44444433355
692.685-014  060405  ADHESIVE BANDAGE MACH  L  4 6 I       212 3 34433433353
711.684-014  060230  CEMENTER               S  4 6 I       222 5 34433443454
724.684-026  060423  COIL WINDER            L  4 6 I       222 4 44443433355
726.684-030  060434  SEALER I               L  4   I       212 3 44544544355
726.687-018  060302  ALUMINUM CONTAINER TE  L  4 6 I       222 2 44443444354
739.687-102  060302  GASKET INSPECTOR       L  4 6 I       211 2 44544543355
750.684-014  060407  BEAD BUILDER           L  4   I       212 2 44443433355
752.684-042  060429  RUBBER TUBING SPLICER  L  4 6 I       212 2 44444443355
780.684-062  060429  FABRICATOR/FOAM RUBB   L  4 6 I       211 2 44443434355
781.687-070  060427  TRIMMER/HAND           L  4 6 I       211 2 44544544455
795.687-014  060434  GLUER                  L  4 6 I       211 1 44544534355
518.684-026  060224  WAX-PATTERN REPAIRER   L  4 6 I       211 2 44433543355
669.685-098  060403  VENEER REPAIRER/MACH   L  4 6 I       211 2 44543544335
712.684-010  060223  ASSEMBLER/SURG. GARM   L  4 6 I       222 3 34433433345
735.687-042  060424  WIRER DRAWER II        L  4   I       211 2 34444534355
781.687-010  060302  ASSEMBLER              L  4 6 I       211 2 44444444453
789.687-050  060302  FINISHER               L  4 6 I       211 2 44443433354
790.684-022  060428  ROLLER/HAND            L  4 6 I       221 5 44443533355
585.685-110  060405  SKIVER/BLOCKERS        S  4 6 I       212 2 44443444344
775.684-062  060430  WATCH CRYSTAL EDGE GR  S  4   I       211 4 34434544355
780.684-062  060429  FABRICATOR/FOAM RUBB   L  4 6 I       211 2 44443434355
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789.687-018  060434  BONER                  L  4   I       211 2 44444543455
521.685-334  060415  STEMMER/MACHINE        L  4   I       111 2 44544544355
521.687-098  060302  PICKER                 L  4 6 I     7 111 2 44544534354
521.687-110  060428  SHAKER                 L  4   I     7 111 1 45544544455
521.687-134  060428  STEMMER/HAND           L  4   I       111 2 44544543355
524.687-018  060428  RACKER                 L  4   I       111 1 44544544355
526.685-034  060421  PAN GREASER/MACHINE    L  4   I       111 2 45544544355
669.686-018  060403  AUTOMATIC NAILING MAC  L  4   I       111 2 45544534355
681.685-030  060438  CARDING MACHINE OPER   S  4   I       111 2 44544544455
732.687-050  060424  MOLD STRIPPER          L  4   I       111 2 44544534345
734.687-090  060423  STICKER I              S  4   I       111 1 44544533455
784.687-070  060427  STICKER II             L  4 6 I       111 2 44544533355
790.687-030  060428  TWISTER/HAND           L  4   I       111 2 44544543355

99   JOB TITLES FOUND
```

The accuracy of this profile is dependent upon the validity of the instruments and the techniques used in the evaluation process. Job listings are compiled from data entered and COMPUJOBS assumes no responsibility for the quality of administration, interpretation or reporting of scores or information used in the search. Profile criteria for each job may vary by setting.

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Computerized Career Assessment and Planning Program
(CCAPP)

MODULE I - CAREER ASSESSMENT
(STUDENT COPY)

STUDENT NAME: RALPH ANDERSEN

TODAY'S DATE: /   /

WORK AREAS PREFERRED

- NATURE
- MECHANICAL
- INDUSTRIAL

WORK ACTIVITIES PREFERRED

- DEAL WITH THINGS AND OBJECTS
- DO ORGANIZED AND ROUTINE TASKS
- PRODUCE THINGS WITH TOOLS OR MACHINES
- DO SCIENTIFIC AND TECHNICAL TASKS
- WORK WITH MACHINES AND PROCESSING

SCHOOL SUBJECTS PREFERRED

- SCIENCE
- AGRICULTURE
- INDUSTRIAL ARTS
- TECHNICAL/INDUSTRIAL EDUCATION

APTITUDE RATINGS

OUTSTANDING AREA(S): *** NONE SELECTED ***

GOOD AREA(S): SPATIAL APTITUDE, FORM PERCEPTION, FINGER DEXTERITY, MANUAL DEXTERITY

AVERAGE AREA(S): GENERAL LEARNING ABILITY, VERBAL APTITUDE, NUMERICAL APTITUDE, MOTOR COORDINATION, EYE/HAND/FOOT COORDINATION, COLOR DISCRIMINATION

DIFFICULT AREA(S): CLERICAL PERCEPTION

CAREER CLUSTERS RELATING TO YOUR ASSESSMENT

			<----------RATING SCALE------------>		
CLUSTER NUMBER	CLUSTER NAME	PAGE # IN GOE	LOOKS GREAT	LOOKS GOOD	NOT INTERESTED
0301	MANAGER: PLANTS & ANIMALS	51			
0304	ELEMENTAL WORK: PLANTS&ANIMALS	59			
0505	CRAFT TECHNOLOGY	88			
0506	SYSTEMS OPERATION	101			
0507	QUALITY CONTROL: MECHANICAL	104			
0508	LAND & WATER VEHICLE OPERATION	108			
0510	SKILLED HAND & MACHINE WORK	115			
0511	EQUIPMENT OPERATION	123			
0512	ELEMENTAL WORK: MECHANICAL	127			
0601	PRODUCTION TECHNOLOGY	138			
0602	PRODUCTION WORK	147			
0603	QUALITY CONTROL: INDUSTRIAL	172			
0604	ELEMENTAL WORK: INDUSTRIAL	180			

EXPLORE INDIVIDUAL CAREER CLUSTERS

THE QUALIFICATIONS AND CHARACTERISTICS LISTED BELOW ARE GROUPED INTO FIVE CATEGORIES FOR EACH CAREER CLUSTER YOU REQUESTED. SINCE A CLUSTER REPRESENTS A BROAD AREA OF WORK INVOLVING MANY OCCUPATIONS, THERE MAY BE SOME VARIATION WITHIN A CLUSTER IN TERMS OF THE CHARACTERISTICS AND QUALIFICATIONS REQUIRED FOR INDIVIDUAL OCCUPATIONS. THUS, THE CHARACTERISTICS LISTED ARE MINIMUM QUALIFICATIONS GENERALLY ASSOCIATED WITH OCCUPATIONS IN THIS CLUSTER. USE THIS INFORMATION TO HELP YOU DETERMINE YOUR INTEREST IN EACH CLUSTER AREA.

CLUSTER NAME: QUALITY CONTROL: MECHANICAL   CLUSTER #: 0507

AREA OF WORK

THIS CLUSTER FALLS IN THE "MECHANICAL" AREA AND INVOLVES...
WORKING WITH TOOLS, MACHINES, EQUIPMENT AND VEHICLES IN ANY OF A WIDE RANGE OF ACTIVITIES FROM FIXING TO DESIGNING.

WORK ACTIVITIES

WORK IN THIS AREA OFTEN REQUIRES THAT YOU...

DEAL WITH THINGS AND OBJECTS
DO ORGANIZED AND ROUTINE TASKS
WORK WITH MACHINES AND PROCESSING

SCHOOL SUBJECTS

SCHOOL COURSES IN ANY OF THESE CURRICULUM AREA(S) WOULD BE HELPFUL IN PREPARING FOR THIS OCCUPATION:

MATHEMATICS

APTITUDES

YOU SHOULD BE AT LEAST AVERAGE IN THESE AREA(S):

GENERAL LEARNING ABILITY
FORM PERCEPTION
SPATIAL APTITUDE

OTHER INFORMATION

FOR MORE INFORMATION SEE THE GUIDE FOR OCCUPATIONAL EXPLORATION (GOE) PAGE 104.

CLUSTER NAME: PRODUCTION TECHNOLOGY CLUSTER #: 0601

AREA OF WORK

THIS CLUSTER FALLS IN THE "INDUSTRIAL" AREA AND INVOLVES...
WORKING IN INDUSTRIES THAT MANUFACTURE GOODS IN LARGE QUANTITIES.

WORK ACTIVITIES

WORK IN THIS AREA OFTEN REQUIRES THAT YOU...

DEAL WITH THINGS AND OBJECTS
WORK WITH MACHINES AND PROCESSING
PRODUCE THINGS WITH TOOLS OR MACHINES

SCHOOL SUBJECTS

SCHOOL COURSES IN ANY OF THESE CURRICULUM AREA(S) WOULD BE HELPFUL IN PREPARING FOR THIS OCCUPATION:

MATHEMATICS
HOME ECONOMICS
INDUSTRIAL ARTS
TECHNICAL/INDUSTRIAL EDUCATION

APTITUDES

YOU SHOULD BE AT LEAST AVERAGE IN THESE AREA(S):

GENERAL LEARNING ABILITY
SPATIAL APTITUDE
MOTOR COORDINATION
MANUAL DEXTERITY
NUMERICAL APTITUDE
FORM PERCEPTION
FINGER DEXTERITY

OTHER INFORMATION

FOR MORE INFORMATION SEE THE GUIDE FOR OCCUPATIONAL EXPLORATION (GOE) PAGE 138.

```
                         LIST OCCUPATIONS WITHIN A CLUSTER                PAGE 1
                         =================================

THE OCCUPATIONS LISTED BELOW ARE THOSE THAT ARE CONTAINED IN THE DATA BASE
FOR EACH CLUSTER YOU REQUESTED.  ALTHOUGH EACH LIST DOES NOT INCLUDE EVERY
POSSIBLE OCCUPATION IN THAT CLUSTER, IT IS REPRESENTATIVE OF OCCUPATIONS
IN THE CLUSTER AREA.

CLUSTER #: 0507   CLUSTER NAME: QUALITY CONTROL: MECHANICAL

REF #   OCCUPATIONAL TITLE              REF #   OCCUPATIONAL TITLE
-----   ------------------------------  -----   ------------------------------
 441    EQUIPMENT INSPECTOR              442    MAINTENANCE INSPECTOR,
                                                TELEPHONE
 443    LOG SCALER                       444    AUTO REPAIR ESTIMATOR
 445    INSPECTOR,                       446    LOG GRADER
        HEATING/REFRIGERATION


CLUSTER #: 0508   CLUSTER NAME: LAND & WATER VEHICLE OPERATION

REF #   OCCUPATIONAL TITLE              REF #   OCCUPATIONAL TITLE
-----   ------------------------------  -----   ------------------------------
 447    TRACTOR-TRAILER DRIVER           448    FOOD-SERVICE DRIVER
 449    GARBAGE COLLECTOR DRIVER         450    CONCRETE-MIX-TRUCK DRIVER
 451    TRUCK DRIVER, LIGHT              452    LOCOMOTIVE ENGINEER
 453    EXPLOSIVES-TRUCK DRIVER          454    VAN DRIVER
 455    LOG-TRUCK DRIVER                 456    TANK-TRUCK DRIVER
 457    DUMP-TRUCK DRIVER                458    TRUCK DRIVER, HEAVY
 459    YARD ENGINEER, RAILROAD


CLUSTER #: 0602   CLUSTER NAME: PRODUCTION WORK

REF #   OCCUPATIONAL TITLE              REF #   OCCUPATIONAL TITLE
-----   ------------------------------  -----   ------------------------------
 577    SCREEN PRINTER                   578    SEWING-MACHINE OPERATOR
 579    HEAVY FORGER                     580    KILN OPERATOR
 581    CRUDE-OIL TREATER                582    CASTING OPERATOR
 583    DROP-HAMMER OPERATOR             584    CHEMICAL MIXER, PHOTO
 585    ASSEMBLER, AIRCRAFT              586    BIT SHARPENER
 587    DRILL PRESS OPERATOR             588    CARPET WEAVER
 589    DRY CLEANER                      590    ELECTRO-PLATER
 591    ELECTRONICS ASSEMBLER            592    FORGING-PRESS OPERATOR
 593    COAL WASHER                      594    WELDING-MACHINE OPERATOR
 595    INJECTION MOLD MACHINE           596    SAND MIXER, MACHINE
        OPERATOR
 597    PLUMBING ASSEMBLER/INSTALLER     598    REFINERY OPERATOR HELPER
 599    SOLDERER-ASSEMBLER               600    PUNCH-PRESS OPERATOR
 601    FLAMECUTTER                      602    ROUGHER, IRON AND STEEL
 603    TOOL GRINDER                     604    LITHOGRAPH-PRESS OPERATOR
 605    SHEAR OPERATOR                   606    HEAD SAWYER
 607    ROLLER, PRIMARY MILL             608    SPEED OPERATOR, IRON/STEEL
 609    MAILING-MACHINE OPERATOR
```

EXPLORE INDIVIDUAL OCCUPATIONS

THE QUALIFICATIONS AND CHARACTERISTICS LISTED BELOW ARE GROUPED INTO SEVEN CATEGORIES FOR EACH OCCUPATION YOU REQUESTED. THE CHARACTERISTICS ARE THOSE THAT ARE GENERAL QUALIFICATIONS OF THE OCCUPATION LISTED BUT MAY VARY FROM ONE SPECIFIC PLACE OF EMPLOYMENT TO ANOTHER. USE THIS INFORMATION TO HELP DETERMINE HOW REALISTIC THIS OCCUPATION IS FOR YOU.

OCCUPATION : SCREEN PRINTER CLUSTER #: 0602 REFERENCE #: 577

WORK SITUATIONS

THIS OCCUPATION OFTEN REQUIRES THAT YOU...
PERFORM ROUTINE TASKS
WORK WITHIN PRECISE LIMITS OR STANDARDS

DATA-PEOPLE-THINGS

IN TERMS OF...
-DATA, THIS OCCUPATION USUALLY INVOLVES WORK AT A SIMPLE LEVEL REQUIRING THE ABILITY TO COPY OR CHECK DATA.
-PEOPLE, THIS OCCUPATION USUALLY INVOLVES WORK AT A SIMPLE LEVEL REQUIRING THE ABILITY TO SERVE OR HELP PEOPLE.
-THINGS, THIS OCCUPATION USUALLY INVOLVES WORK AT A MODERATE LEVEL REQUIRING THE ABILITY TO OPERATE MACHINES OR USE TOOLS FOR MODERATELY DIFFICULT TASKS.

MATHEMATICS AND LANGUAGE ABILITY

YOU SHOULD BE AT LEAST...
AVERAGE IN MATHEMATICS ABILITY
AVERAGE IN LANGUAGE SKILLS

PHYSICAL DEMANDS

ON A REGULAR BASIS, YOU MAY HAVE TO DO...LIGHT WORK (20 POUNDS OR LESS)

YOU SHOULD ALSO BE ABLE TO:
REACH/HANDLE SEE WELL

WORK ENVIRONMENT

YOU WOULD BE WORKING PRIMARILY INSIDE.

EDUCATION AND TRAINING

YOU SHOULD BE WILLING TO SPEND OVER 30 DAYS, UP TO 3 MONTHS IN EDUCATION AND TRAINING.

SALARY AND EMPLOYMENT OUTLOOK

THE SALARY RANGE FOR THIS OCCUPATION IS AS FOLLOWS...
ENTRY LEVEL:NOT AVAILABLE AVERAGE/MEDIAN:$8,000 UPPER LEVEL:NOT AVAILABLE
THE EXPECTED EMPLOYMENT OUTLOOK FOR THIS OCCUPATION IS...AVERAGE TO GOOD.

OTHER INFORMATION

FOR MORE INFORMATION SEE THE DICTIONARY OF OCCUPATIONAL TITLES (DOT)# 979684030

OR THE OCCUPATIONAL OUTLOOK HANDBOOK (OOH): 1980-81 PG# 566

DataMaster III

*** MVQS DATAMASTER ***
JOB PROFILE REPORT

CLIENT NAME: Ralph J. Andersen CONSULTANT: Dr. Karl F. Botterbusch
FILE NAME: RJA001 REPORT DATE: 05-14-1986
SORT BASE: 46 PROFILES: SORT TYPE: SVQ

D.O.T. CODE NUMBER	D.O.T. JOB TITLE	GED R M L	SVQ	GOE
WORK HISTORY				
903.683-018	TANK-TRUCK DRIVER	3 1 2	057.65	050801
910.682-010	TANK-TRUCK DRIVER	3 1 2	057.65	050801
454.684-018	LOGGER, ALL-ROUND	2 1 1	051.40	030402
421.683-010	FARM WORKER, GENERAL	3 2 3	060.73	030401
MATCHED PROFILES:				
189.167-034	SECURITY OFFICER	4 3 4	061.35	110502
195.267-014	ALCOHOL-DRUG COUNSEL	3 3 3	057.63	100102
641.682-014	GLUING-MACHINE OPERA	3 2 2	053.56	060220
919.683-014	DRIVER	3 1 1	052.60	050803
312.474-010	BARTENDER	3 2 2	052.39	090401
311.477-026	WAITER/WAITRESS, FOR	3 2 3	051.43	090401
763.684-014	CABINET ASSEMBLER	3 2 3	051.15	060222
290.477-018	SALES CLERK, FOOD	3 3 2	049.84	090402
311.477-034	WAITER/WAITRESS, ROO	3 2 2	049.70	090502
309.674-014	PERSONAL ATTENDANT	2 2 2	049.25	090506
726.684-026	ELECTRONICS TESTER 2	3 3 3	049.24	060302
311.477-030	WAITER/WAITRESS, INF	3 2 2	049.20	090401
207.685-018	PHOTOGRAPHIC-MACHINE	3 2 2	049.06	051219
725.384-010	TUBE ASSEMBLER, ELEC	2 2 2	048.96	060104
311.477-018	WAITER/WAITRESS, BAR	3 2 2	048.94	090401
319.474-010	FOUNTAIN SERVER	2 2 2	048.58	090401
309.677-010	COMPANION	3 2 3	048.21	100303
389.684-010	EXTERMINATOR	3 2 2	047.81	051009
589.685-010	BOARDING-MACHINE OPE	2 1 2	047.79	060416
311.477-038	WAITER/WAITRESS, TAK	3 2 2	047.09	090401
311.477-014	COUNTER ATTENDANT, L	2 2 2	044.70	090401
806.684-078	INSULATION-BLANKET M	2 1 1	044.33	060434
729.687-010	ASSEMBLER, ELECTRICA	2 1 2	044.24	060423
976.487-010	PHOTOGRAPH FINISHER	2 1 1	043.70	051005
784.684-022	DECORATOR, HAT/HANDB	2 1 1	043.62	060427
739.684-034	CASE FINISHER	2 1 2	043.51	060427
381.687-010	CENTRAL-SUPPLY WORKE	2 1 2	042.92	051216
679.685-010	MACHINE OPERATOR, CF	2 1 1	042.13	060408
737.587-014	FIREWORKS ASSEMBLER	2 1 1	041.88	060423
731.687-034	TOY ASSEMBLER	2 1 1	041.02	060423
731.587-010	FINISHER, HAND	2 1 1	040.36	060423
726.687-014	PLUG WIRER	2 1 1	040.32	060423
311.677-010	CAFETERIA ATTENDANT	2 1 1	040.26	090502
556.685-022	COMPRESSION-MOULDING	2 1 1	039.86	060413
739.687-030	ASSEMBLER, SMALL PRO	2 1 1	039.58	060423
789.687-066	GARMENT FOLDER	1 1 1	039.42	060438
739.687-026	ASSEMBLER, OIL FILTE	2 2 2	039.15	060423

556.685-038	INJECTION-MOLDING-MA	2 1 1	038.67	060410
920.687-126	MARKER 2	2 1 1	038.59	060437
369.687-010	ASSY/SORTER,LAUNDRY	2 1 2	038.56	060302
521.685-334	STEMMER, MACHINE	1 1 1	037.60	060415
795.687-014	GLUER	2 1 2	037.37	060434
727.687-022	ASSEMBLER, DRY CELL	1 1 1	037.26	060423
712.687-010	ASSEMBLER, HOSPITAL	2 1 1	037.25	060438
521.687-134	STEMMER, HAND	1 1 1	036.09	060428
521.687-086	NUT SORTER	1 1 1	032.30	060302

DATAMASTER REPORT

Client Name: Ralph J. Andersen
File Name: RJA001
Report Date: 05-14-1986

TRANSFERRABLE SKILLS ANALYSIS

Level of Transferability		Job Matches
High -	7	0
	6	0
	5	0
Moderate -	4	1
	3	1
	2	1
Low -	1	2

Ralph J. Andersen is also employable in 18 jobs that require no transferrable skills.

The following report is based on Transferability Level 4

Isabel

```
--------------------------------------------------------------------------------
                  ISABEL'S OCCUPATIONAL INTERVIEW RESULTS             PAGE    1
--------------------------------------------------------------------------------
   DATE PREPARED: 05/19/86      PREPARED BY: EVALUATION OF ISABEL
                                             325 W. PARK AVENUE
                                             Tallahassee, FL 32301
--------------------------------------------------------------------------------
                  CLIENT NAME: Mitchell,Joni May
--------------------------------------------------------------------------------
   SOC. SEC. NO.:  111-22-3333     RACE: W     SEX: F     BIRTH: 08/21/51
   STREET ADDRESS: 325 W. Park Ave.
             CITY: Tallahassee          STATE: Fl     ZIP: 32301
   HOME PHONE NO.: 878-9966             WORK PHONE NO.: 224-3456
   LAST EMPLOYED:  N/A        JOB HELD:                              PAY: $/Mo.
   REFERRED BY:    Brentwood Rehabilitation Center
   DISABILITIES: amputee-right hand
--------------------------------------------------------------------------------
      OCCUPATION OF INTEREST: Indep. Living Aids       DOT CODE: 000.000-000
--------------------------------------------------------------------------------
PHYSICAL FACTOR         STATISTICS   CLIENT       EXAMPLES
---------------         ----------   ------       --------

Finger/Feel (right)     100% Yes       *          user specified job

Finger/Feel (both)      100% Yes       *          user specified job

                        SELECTED AID: One Hand Shoe-Fastener
                        ------------                         COST: $13 Each
                        Slide closure unit that is laced into shoes, adjusted for
                        tension, and anchored in place.  Eliminates tying of
                        shoes.

                               DISTRIBUTOR:  Fred Sammons
                               -----------   CATALOG: 84
                                             BRAND:   Ortho Lace

Handling (right only)   100% Yes       *          user specified job

Handling (both)         100% Yes       *          user specified job

                        SELECTED AID: Suction Bottle/Dish Brush
                        ------------                         COST: $14-$15 Each
                        Brush(es) with suction base for mounting on sink or
                        counter.  Allows for one-handed washing.  Can clean
                        inside and outside of glass/dish simultaneously with
                        double brush models.

                               DISTRIBUTOR:  Maddak
                               -----------   CATALOG: 85
                                             BRAND:   Dish Brush

                               DISTRIBUTOR:  Fred Sammons
                               -----------   CATALOG: 84
                                             BRAND:   Deluxe Suction Bottle Brush

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Job Matching II

JOB MATCHING II
INDIVIDUAL REPORT

NAME: BOTTERBUSCH K BOOKLET NO. 10853

PHILOSOPHY: People have a tendency to seek out activities they like, and avoid those activities they dislike. If they like what they are doing and are doing it well, they are more likely to do a better job. If they don't like what they are doing and believe they are not doing it well, they are less effective and are more likely to leave the job. Your profile is a picture of what activities you like and dislike.

PURPOSE: To match you to jobs and/or training programs by comparing your preferences and experiences to the requirements of jobs and/or training programs.

PROCESS: You responded to 200 pictures and statements that were examples of real life activities and behaviors. Your responses indicated how much you liked or disliked doing that type of activity or how much you have or have not done that type of activity. Your responses actually formed patterns; that is, you tended to avoid certain kinds of activities while approaching others. These approach/avoidance patterns formed a personalized profile or graph.

Your profile is made up of 20 points, and each point is defined as a dimension of work. The pictures that you responded to were actually examples of these 20 dimensions.

This report is an analysis of your profile and how it compares to jobs and/or training profiles stored in the computer. These profiles were developed in exactly the same way as yours, only they represent what is required or not required on jobs and what is or is not taught in training programs.

The 20 dimensions of work are listed and defined on the next page. They are divided into three categories, namely:

1. Concrete Activities - 8 dimensions dealing with things or objects.

2. Social Activities - 5 dimensions involving contact with people.

3. Informational Activities - 7 dimensions dealing with data or ideas.

Please read these definitions carefully; they are referred to throughout this report.

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PAGE 2

1-CORRECTION - Making sure things work correctly; maintaining the quality of work performed by self or others. Such as checking items prior to shipment, repairing appliances and testing materials using a machine.

2-FINE MANUAL - Performing activities which require attention to detail because of the smallness of the things worked on or with. May work with hands, tools or light machinery. Such as operating an adding machine, connecting small wires and using a typewriter.

3-LOCOMOTION - Moving around on foot or in a vehicle in order to get from one place to another. Such as traveling by airplane, driving a care and going for long walks.

4-GROSS MANUAL-INDEPENDENT - Using hands, tools or machinery to make or assemble things. Attention paid to overall project rather than to details. Work is done relatively free from close supervision by procedure, supervisor, or machinery. Such as rebuilding engines, painting interior of house and cooking meals.

5-GROSS MANUAL-DEPENDENT - Using machinery or tending machinery on assembly line or under close supervision by instructor or supervisor. Attention paid to overall project. Such as operating a copy machine, tending an automatic power saw and running a movie projector.

6-ORDER - Keeping things neat, clean, where they belong or other ways of maintaining or improving the appearance of things. Such as straightening out desk, dusting furniture and arranging things to look neat.

7-ATHLETIC - Using large muscles of the body to lift, carry or move heavy objects. High level of physical exertion required. Such as using a shovel, moving heavy furniture and loading or unloading trucks.

8-UTILITY - Performing activities which save the time or energy of others. Such as opening mail, shopping for other people and delivering packages.

//

9-EXPLORATION - Finding out or responding to someone else's intentions by listening and/or watching. Such as listening to someone's tone of voice, being alert to the feelings of others and noticing how people dress and talk.

10-MANAGEMENT - Taking responsibility for or influencing the present and/or future behavior of other people. Such as managing a small group, training people in the performance of something new and giving advice to a group.

11-PERSUASION - Convincing others to act in a way beneficial to you. Such as persuading people to participate in an event, raise funds from people and convincing a person to join your organization.

12-PHYSICAL SERVICE - Meeting specific physical needs of other people. Such as helping people exercise, styling and setting hair and giving first aid treatment.

13-ATTENDING - Performing activities which meet the immediate wants and needs of other people but do not require social interaction or personal contact. Such as waiting on tables, giving directions to others and showing guests to their rooms.

//

14-SCIENTIFIC - Using controlled observations to collect, analyze and understand data. Such as analyzing results of a test, making observations to develop standards and evaluating new developments in a field.

15-TECHNOLOGY - Using scientific facts, models and principles to deal with problems and situations. Such as diagnosing cause of malfunction, utilizing knowledge of high level technology and applying principles to the design of equipment.

16-INNOVATION - Using artistic talents or taking a novel or creative approach. Such as painting or drawing pictures, designing new forms and figuring out new ways of doing things.

17-VERBAL-WRITTEN - Using written words to convey and describe information. Such as preparing reports, writing letters to others and reading instructions.

18-VERBAL-SPOKEN - Using spoken words to describe and convey information. Such as discussing issues, explaining how something works and holding a debate.

19-NUMERICAL - Using numbers of number concepts to represent ideas, things, situations, relationships or people. Such as keeping financial records, balancing a checkbook and calculating total costs.

20-CLERICAL - Recording or keeping track of events or completing paperwork for administrative purposes. Such as keeping detailed records of data, filing forms and assembling data.

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APPROACH-AVOIDANCE PREFERENCE CHART

The following chart lists the dimensions that you approach and avoid. This approach/avoidance is determined by the degree of preference you indicated during the survey. Your preference scores are printed in parentheses immediately following the dimension name. A score between a -6 and -30 indicates an avoidance. The dimension with the highest negative score is listed first followed by the next highest negative. The greater the negative score, the more dislike you have indicated.

A score between a 6 and 30 represents an approach to that dimension. The dimension with the highest score is listed first followed by the next highest and so on. The higher the number, the more preference you have indicated.

Scores which fall between -5 and 5 are considered neutral.

PREFERENCE

AVOID	NEUTRAL	APPROACH
11-PERSUASION (-26)	10-MANAGEMENT (4)	14-SCIENTIFIC (22)
8-UTILITY (-26)	19-NUMERICAL (2)	9-EXPLORATION (16)
5-GROSS MANUAL-DEP (-22)	18-VERBAL SPOKEN (2)	16-INNOVATION (14)
7-ATHLETIC (-22)	1-CORRECTION (0)	3-LOCOMOTION (14)
20-CLERICAL (-18)	6-ORDER (0)	17-VERBAL WRITTEN (8)
13-ATTENDING (-14)	2-FINE MANUAL (0)	15-TECHNOLOGY (8)
	12-PHYSICAL SERVICE (-2)	4-GROSS MANUAL-IND (6)

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APPROACH-AVOIDANCE EXPERIENCE CHART

This chart lists the amount of experience you have in each of the 20 dimensions. If your scores are between 6 and 30, this indicates that you have a high degree of experience. Your experience scores are printed in parentheses immediately following the dimension name. If your scores are between -5 and 5, then you have a medium amount of experience. You have a low degree of experience if your scores are between -6 and -30. Each of the three columns are listed in order of magnitude within their respective ranges.

EXPERIENCE

LOW	MEDIUM	HIGH
8-UTILITY (-22) 11-PERSUASION (-18) 5-GROSS MANUAL-DEP (-16) 13-ATTENDING (-12) 15-TECHNOLOGY (-10) 7-ATHLETIC (-6)	2-FINE MANUAL (4) 20-CLERICAL (4) 4-GROSS MANUAL-IND (-2) 1-CORRECTION (-4) 12-PHYSICAL SERVICE (-4)	17-VERBAL WRITTEN (22) 9-EXPLORATION (18) 3-LOCOMOTION (14) 10-MANAGEMENT (14) 14-SCIENTIFIC (10) 6-ORDER (10) 16-INNOVATION (8) 18-VERBAL SPOKEN (8) 19-NUMERICAL (6)

DATA - PEOPLE - THINGS

Through analysis of your responses to the items in Job Matching II, we are able to establish a correspondence between your profile and the Data, People, and Things categories of the Dictionary of Occupational Titles (DOT). In the table below you will find the Data - People - Things category numbers for which the analysis suggests you consider when reviewing DOT jobs. For example, if your chart lists 0, 1, and 3 as your highest numbers under the Data classification, then you might consider any DOT job with Data codes 0, 1, or 3.

D P T CATEGORY	YOUR HIGH NUMBERS
DATA	
PEOPLE	0, 2
THINGS	2, 3

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YOUR COMBINATION PROFILE

On a scale of -100 to 100 the degree of similarity between your preference and experience is 80. Since the degree of similarity is 45 or above, indicating that there is sufficient similarity between your preferences and experiences, your combination scores will be used to match you to jobs, training programs, and/or work samples.

The profile or graph shown on the next page will be used for all the matching done in this report. It shows all the dimensions you approach and avoid. The (*) are printed on the graph at a point which is approximately equal to your score.

INDIVIDUAL MATCHING PROFILE

DIMENSIONS OF WORK	SCORE	Avoid Neutral Approach 30 20 10 0 10 20 30 ----------- ++++++++++++
1-CORRECTION	-2	. . . . *
2-FINE MANUAL	2	. . . . *
3-LOCOMOTION	14	. . . . *
4-GROSS MANUAL - IND	2	. . . . *
5-GROSS MANUAL - DEP	-19	. . .*
6-ORDER	5	. . . .*
7-ATHLETIC	-14	. . . . *
8-UTILITY	-24	. .*
9-EXPLORATION	17	. . . . *
10-MANAGEMENT	9	. . . .*
11-PERSUASION	-22	. . *
12-PHYSICAL SERVICE	-3	. . . .*
13-ATTENDING	-13	. . . . *
14-SCIENTIFIC	16	. . . . *
15-TECHNOLOGY	-1	. . . . *
16-INNOVATION	11	. . . . *
17-VERBAL WRITTEN	15	. . . . *
18-VERBAL SPOKEN	5	. . . .*
19-NUMERICAL	4	. . . .*
20-CLERICAL	-7	. . . . . .*

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YOUR BEST MATCHES TO PREP'S JOB BANK

The next page shows your best matches to jobs in Prep's computer bank. When you were recording your responses, you indicated that you wanted to be matched to jobs classified as semi-skilled, skilled, technical and professional. Therefore, you have been matched to these types of jobs.

The computer has analyzed your profile and compared it to the semi-skilled, skilled, technical and professional jobs stored in the National Data Bank. As a result of this analysis, the computer has selected the 5 best matches to the National Base, which are reported on the next page, and are in the following format.

JOB NAME:	The title of the job.
D.O.T. CODE:	A nine-digit number assigned to a job by the U.S. Department of Labor. This number is fully explained in the Dictionary of Occupational Titles Handbook.
BANK NO.:	A number assigned to each profile in the bank.
MATCH SCORE:	A number between +10 and -10, which indicates how well your profile matches the job profile. A positive match is a score of +3 to +10, and means that your approach/avoidance pattern is similar to the approach/avoidance pattern of the job. The closer this match score is to +10, the more similar the profiles are. The five matches on the next page are listed starting with the best match.
DESCRIPTION:	A statement written by industry which gives a brief description of the tasks performed on the job.
JOB SCORES:	These are the scores of the 20 dimensions of work which make up the job profile. These are the numbers used in the matching process, and correspond to the sequential numbers and definitions found on page 2.

Similarly, if you have requested matches to Prep's Work Samples, or to your institution's local job and/or training bank, the following pages will contain listings for these matches. Keep in mind that all matches are listed by magnitude of match score. Where +10 is the highest possible match.

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YOUR BEST MATCHES TO PREP'S JOB BANK

JOB NAME: CONSULTANT - FINANCIAL D.O.T. CODE: 189167010
BANK NO.: 44 MATCH SCORE: 6

DESCRIPTION: Consults with clients to define financial needs or problems. Analyzes data to advise on or recommend solutions.

JOB SCORES: -28 -18 -4 -30 -14 -16 -28 -26 4 4 -20 -28 -20 0 2 -10 14 -4 26 -4

JOB NAME: PEDIATRICIAN D.O.T. CODE: 070101066
BANK NO.: 78 MATCH SCORE: 6

DESCRIPTION: Examines children from birth through adolescence to determine presence of disease and to establish preventive health practices. Administers medications, consults with parents.

JOB SCORES: -28 -26 -2 -30 -20 6 -30 -28 24 12 -3 -6 -14 8 -2 -14 2 8 14 0

JOB NAME: CHIEF PRISON ADMINISTRATOR D.O.T. CODE: 372167018
BANK NO.: 32 MATCH SCORE: 6

DESCRIPTION: Supervises the entire jail operation involving booking, transporting prisoners to and from court. Maintains orderly conduct. Feeds and houses inmates. Operates work out program.

JOB SCORES: 4 -24 -8 -26 -16 -4 -26 -20 24 18 -6 -24 -4 18 10 0 10 12 12 4

JOB NAME: METER READER D.O.T. CODE: 209567010
BANK NO.: 35 MATCH SCORE: 5

DESCRIPTION: Read meters, record current reading of meters onto customer cards. walks or drives to established route. Clean meters and meter setting and notes any irregularities. Answers customers questions regarding services provided.

JOB SCORES: -26 -30 0 -28 -30 -20 -28 -30 -20 -22 -30 -26 -28 -30 -28 -30 -26 -26 -24 -28

JOB NAME: TAX ACCOUNTANT D.O.T. CODE: 160162010
BANK NO.: 11 MATCH SCORE: 5

DESCRIPTION: Prepares income tax returns, audits, reviews and compiles financial statements.

JOB SCORES: 16 -10 -4 -28 -8 8 -28 -10 20 10 2 -30 0 30 28 4 28 16 30 16

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PAGE 8

YOUR BEST MATCHES TO PREP'S WORK SAMPLES

WORK SAMPLE: #13 POLICE SCIENCE
MATCH SCORE: 4

WORK SAMPLE: #1 DRAFTING
MATCH SCORE: 4

WORK SAMPLE: #19 FIRE SCIENCE
MATCH SCORE: 3

WORK SAMPLE: #17 NUTRITION
MATCH SCORE: 3

WORK SAMPLE: #20 EXTRACTION TECHNOLOGY
MATCH SCORE: 3

WORK SAMPLE: #12 ELECTRICAL
MATCH SCORE: 2

WORK SAMPLE: #16 COMMERCIAL ART
MATCH SCORE: 2

WORK SAMPLE: #9 BARBERING/COSMETOLOGY
MATCH SCORE: 2

WORK SAMPLE: #7 MEDICAL SERVICES
MATCH SCORE: 2

WORK SAMPLE: #18 BOOKKEEPING
MATCH SCORE: 1

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Job Opportunity Based Search
(JOBS)

```
01-01-1980    JOBS HARD DISK DEMONSTRATION PROGRAM                                      PAGE  1

Search for:

General Educational Development (GED)
   R  -Reasoning  :  3  -Approximate Grade Level 7-8
   M  -Math       :  3  -Approximate Grade Level 7-8
   L  -Language   :  3  -Approximate Grade Level 7-8
Only job profiles with GED requirements equal to or less than  those specified above will be considered.

Aptitudes                                  Percentile Levels
  G  -Intelligence              : 3  -34% to 65%
  V  -Verbal                    : 3  -34% to 65%
  N  -Numerical                 : 4  -10% to 33%
  S  -Spatial                   : 3  -34% to 65%
  P  -Form Perception           : 3  -34% to 65%
  Q  -Clerical Perception       : 4  -10% to 33%
  K  -Motor Coordination        : 4  -10% to 33%
  F  -Finger Dexterity          : 2  -66% to 89%
  M  -Manual Dexterity          : 3  -34% to 65%
  E  -Eye/Hand/Foot Coordination : 3  -34% to 65%
  C  -Color Discrimination      : 3  -34% to 65%
Only job profiles requiring equal or less aptitude levels will be considered.

Maximum strength level
  S  -Lift 10 pounds or less
**L  -Lift 20 pounds or less
  M  -Lift 50 pounds or less
  H  -LIft 100 pounds or less
  V  -Lift 100 pounds or more
** indicates that only job profiles requiring a strength equal to or less than this value will be considered.

Physical Demands
**2  -Climbing and/or Balancing
**3  -Stooping/Bending/Crawling
  4  -Reaching/Fingering/Feeling
  5  -Talking and/or Hearing
  6  -Seeing/Vision
** Job profiles requiring these physical demands will not be considered.

Environmental Conditions
  I  -Working inside
  O  -Working outside
**2  -Extreme cold with or without temperature changes
  3  -Extreme heat with or without temperature changes
**4  -Wet and/or humid conditions
**5  -Heavy noise conditions and/or vibrations
**6  -Presence of hazards
  7  -Abnormal atmospheric conditions--gas, dust, etc.
                                   (C)  1984  Train-Ease Corp  ***V3.2*** (neg)
```

```
 Search for:

 ** Job profiles that have any of these environmental conditions will not be considered.

 Temperament Factors
   D  -Accepts responsiblity for direction, control, or planning of an activity
 **F  -Adapts to interpertation of feelings, ideas, or facts from  a personal view
 **I  -Adapts to influencing peoples's opinions, attitudes, or judgements
 **J  -Adapts to making evaluations or judgements based on sensory criteria
   M  -Adapts to making evaluations or judgements based on measurable criteria
   P  -Deals with people beyond giving and receiving instructions
   R  -Adapts to performing reptitive work or working at the same  pace
   S  -Adapts to performing under stress when confronted with critical decisions
   T  -Adapts to situations requiring precise attainment of set limits
   V  -Adapts to performing a variety of duties, switching from one to another
 ** Job profiles requiring these temperament factors will not be considered.

 Interest factors
 **1A  -Preference for activities dealing with things and objects
   1B  -Preference for activities concerned with the communication of data
 **2A  -Preference for activities involving business contact with people
 **2B  -Preference for activities of a scientific and technical nature
 **3A  -Preference for activities of a routine, concrete, organized nature
   3B  -Preference for activities of an abstract and creative nature
 **4A  -Preference for working for the presumed good of people
   4B  -Preference for activities carried on in relation to machines
   5A  -Preference for activities resulting in the prestige or esteem of others
   5B  -Preference for activities resulting in tangible, productive satisfaction
 ** Only job profiles with these interest factors will be selected for consideration.

  GOE interest areas not used as a criteria for selection in this search.
  The following search is for RALPH J.   DERSEN        based on that individual's profile.
  Job titles selected are equal to or less than the levels established by the Department of Labor.
Search profile--GOE code search mode          333 33433442333 L 23    2456    FIJ   1A2A2B3A4AGOE:05
DOT CODE  DOT JOB TITLE                       RML GVNSPQKFMEC Physicl Envirn  Temps Interests  GOE    P CIPS   CIPS Title
--------- ----------------------------------- --- ----------- ------- ------- ----- ---------- ------ - ------ ---------------
  Maximum value of SVP: 5 (This limit will be used in the search)
365674010 SHOE-REPAIRER HELPER                221 44443544354 L 4     I       MT    1A3A       050515 4 470406 SHOE AND BOOT RE
953367014 GAS-METER CHECKER                   322 34443444354 L 46    B       MR    1A3A       050701 5       .
209667014 ORDER CALLER                        212 44444444455 L 56    I       R     1A3A       050903 2       .
922687054 LABORATORY-SAMPLE CARRIER           211 44444444355 L 4     B       R     1A3A       050903 2       .
  Searched  1737 profiles and  4 profiles met the search criterion.
NO INDUSTRY MATCH FOR OES CODE: 80002823  ALL OTHER HELPERS-SKILLED
    365674010:SHOE-REPAIRER HELPER

  OES CODE: 50142202  NEON SIGNS-BILLBOARDS-ADV. OCC
    MATCHES TO THE FOLLOWING SELECTED DOT JOB TITLES:
    953367014:GAS-METER CHECKER
 These jobs are most likely found in the following industries:
  731  ADVERTISING                      762  ELECTRICAL REPAIR SHOPS        399  MISCELLANEOUS MANUFACTURES
  249  MISCELLANEOUS WOOD PRODUCTS

  OES CODE: 30001898  SALES OCCUPATIONS
    MATCHES TO THE FOLLOWING SELECTED DOT JOB TITLES:
    209667014:ORDER CALLER
 These jobs are most likely found in the following industries:
```

(C) 1984 Train-Ease Corp ***V3.2*** (neg)

```
 01-01-1980     JOBS HARD DISK DEMONSTRATION PROGRAM                                    PAGE  3

Search for:

594  MISCELLANEOUS SHOPPING GOODS S  531  DEPARTMENT STORES              551  MOTOR VEHICLE DEALERS (NEW AND
541  GROCERY STORES                  543  FRUIT STORES AND VEGETABLE MAR  521  LUMBER AND OTHER BUILDING MATE
525  HARDWARE STORES                 571  FURNITURE AND HOME FURNISHINGS  599  RETAIL STORES- N.E.C.
737  COMPUTER-DATA PROCESSING SERV.  545  DAIRY PRODUCTS STORES          562  WOMEN'S READY-TO-WEAR STORES
521  LUMBER AND OTHER BUILDING MATE  554  GASOLINE SERVICE STATIONS      573  RADIO- TELEVISION- AND MUSIC S
561  MEN'S AND BOYS' CLOTHING AND F  553  AUTO AND HOME SUPPLY STORES    566  SHOE STORES
592  LIQUOR STORES                   591  DRUG STORES AND PROPRIETARY ST

OES CODE: 80002899  ALL OTHER LABORERS- EX. FARM
  MATCHES TO THE FOLLOWING SELECTED DOT JOB TITLES:
  922687054:LABORATORY-SAMPLE CARRIER
These jobs are most likely found in the following industries:
421  TRUCKING- LOCAL AND LONG DISTA  331  BLAST FURNACES AND BASIC STEEL  514  GROCERIES AND RELATED PRODUCTS
736  PERSONNEL SUPPLY SERVICES       446  WATER TRANSPORTATION SERVICES  371  MOTOR VEHICLES AND EQUIPMENT
179  MISCELLANEOUS SPECIAL TRADE CO  515  FARM-PRODUCT RAW MATERIALS     509  MISCELLANEOUS DURABLE GOODS
307  MISCELLANEOUS PLASTICS PRODUCT  344  FABRICATED STRUCTURAL METAL PR  265  PAPERBOARD CONTAINERS AND BOXE
519  MISCELLANEOUS NONDURABLE GOODS  242  SAWMILLS AND PLANING MILLS     332  IRON AND STEEL FOUNDRIES
262  PAPER MILLS- EXCEPT BUILDING P  201  MEAT PRODUCTS                  251  HOUSEHOLD FURNITURE
335  NONFERROUS ROLLING AND DRAWING  243  MILLWORK- PLYWOOD- AND STRUCTU
MATCH OF DOT JOB TITLES TO INDUSTRIES FINISHED
 The above industrial designations form a list that will enable you to locate employers that are likely
 to employ the job titles selected from the above search.  If you are not using the Employer bank then some
useful aids are:  state manufacturer's directories, state job banks, telephone yellow pages, and local newspapers.
---------------------------------------------------------------------------------------------------------------------
OES MATCH CODE: NEON SIGNS-BILLBOARDS-ADV. OCC
 EMPLOYER BANK SEARCH ON SIC: 762 ELECTRICAL REPAIR SHOPS
 COMPANY NAME              ADDRESS              CITY       ZIP   PHONE
 ---------------------- ---------------------- ------------ ----- --------

 Printed  0 Employers

OES MATCH CODE: NEON SIGNS-BILLBOARDS-ADV. OCC
 EMPLOYER BANK SEARCH ON SIC: 249 MISCELLANEOUS WOOD PRODUCTS
 COMPANY NAME              ADDRESS              CITY       ZIP   PHONE
 ---------------------- ---------------------- ------------ ----- --------

 Printed  0 Employers

OES MATCH CODE: NEON SIGNS-BILLBOARDS-ADV. OCC
 EMPLOYER BANK SEARCH ON SIC: 399 MISCELLANEOUS MANUFACTURES
 COMPANY NAME              ADDRESS              CITY       ZIP   PHONE
 ---------------------- ---------------------- ------------ ----- --------

 Printed  0 Employers

OES MATCH CODE: NEON SIGNS-BILLBOARDS-ADV. OCC
 EMPLOYER BANK SEARCH ON SIC: 731 ADVERTISING
 COMPANY NAME              ADDRESS              CITY       ZIP   PHONE
 ---------------------- ---------------------- ------------ ----- --------

 THE SIGN STUDIO        306 EAST AVE           AUSTIN       78701 444-3060
 REVUE CORPORATION      INTERFIRST TOWER       AUSTIN       78701 469-0131
 FEMAT CARLOS & ASSOCIA 812 W 11TH             AUSTIN       78701 472-0122
 BRAVO COMMUNICATIONS   90[illegible] RIO GRANDE         AUSTIN       78701 472-0809
 R DELAUNE MEDIA CONSUL 812 W 11TH             AUSTIN       78701 472-3928
 THE FRASER GROUP       300 W 5TH ST           AUSTIN       78701 472-5701
 MOORE & MORE ADVERTISI 1002 WEST AVE          AUSTIN       78701 472-6933
 Printed  7 Employers
                                   (C)  1984  Train-Ease Corp  ***V3.2*** (neg)
```

Job-Person Matching System
(JPMS)

Career Development Specialists
1625 Ninth Ave. S.E.
St. Cloud, MN 56301 (612) 252-5103

COMPUTERIZED CAREER ANALYSIS

Date: 7/16/86

Client:
Ralph Anderson

Career Specialist:
Dr. Karl Botterbusch
Professor

JOB HISTORY

	D.O.T.	Difficulty Index	G.O.E.	Title
1.	421.683-010	60.73	030401	FARMWORKER, GENERAL 1
2.	454.684-018	51.40	030402	LOGGER, ALL-ROUND
3.	903.683-018	57.65	050801	TANK-TRUCK DRIVER
4.	910.682-010	58.59	051212	TRACK REPAIRER

Optimum Profile Difficulty Index: 144.53

JOB POSSIBILITIES

	D.O.T.	Difficulty	G.O.E.	Title
1.	770.685-022	0062.93	060408	JEWEL-BEARING POLISH
2.	770.685-018	0062.73	060408	JEWEL-BEARING GRINDE
3.	953.367-010	0061.43	050701	GAS-LEAK INSPECTOR
4.	523.385-010	0055.45	060419	PRESSURE-TANK OPERAT
5.	556.685-038	0054.25	060410	INJECTION-MOLDING-MA
6.	529.387-030	0054.15	060301	QUALITY-CONTROL TECH
7.	715.685-042	0053.78	060203	PINION POLISHER
8.	556.665-014	0053.40	060413	CORRUGATOR OPERATOR
9.	359.673-010	0052.81	090302	CHAUFFEUR
10.	608.685-014	0052.00	060402	BARREL POLISHER/ INS

10 Jobs were found of 10 requested.

The client's optimum profile is a composite of 4 work histories, 2 evaluations, and any critical variables. The difficulty index, based on the optimum profile, is calculated to be 144.53. 227 jobs in the world of work have equivalent or easier difficulty indexes than those shown.

Mr. Ralph Anderson

JOB HISTORY

	D.O.T.	Difficulty Index	G.O.E.	Title
1.	421.683-010	60.73	030401	FARMWORKER, GENERAL I
2.	454.684-018	51.40	030402	LOGGER, ALL-ROUND
3.	903.683-015	57.65	050801	TANK-TRUCK DRIVER
4.	910.683-018	58.59	051212	TRACK REPAIRER

Optimum Profile Difficulty Index 144.53

EVALUATIVE DATA

1. Vocational Evaluation
2. Medical History

	Work History					Evaluative Data							C	O
	1	2	3	4	C	1	2	3	4	5	6	7	V	P
Significant voc prep(9)	5	4	3	4	5	5	*	*	*	*	*	*	5	5
Data, People, Things(9)														
Data	2	2	2	2	2	5	*	*	*	*	*	*	5	5
People	0	0	0	0	0	5	*	*	*	*	*	*	6	6
Things	5	4	5	6	6	2	*	*	*	*	*	*	3	3
Gen. Educational Dev(6)														
Reasoning	3	2	3	3	3	3	2	*	*	*	*	*	3	3
Mathematics	2	1	1	2	2	3	*	*	*	*	*	*	3	3
Language	3	1	2	2	3	3	2	*	*	*	*	*	3	3
Aptitudes (5)														
General	3	2	3	3	3	3	*	*	*	*	*	*	3	3
Verbal Aptitudes	2	2	2	2	2	3	*	*	*	*	*	*	3	3
Numerical Aptitudes	2	2	2	2	2	3	*	*	*	*	*	*	2	2
Spatial Perception	2	3	3	3	3	2	*	*	*	*	*	*	3	3
Form Perception	2	2	2	2	2	3	*	*	*	*	*	*	3	3
Clerical Aptitude	2	1	2	2	2	1	*	*	*	*	*	*	2	2
Motor Coordination	3	3	3	3	3	2	*	*	*	*	*	*	3	3
Finger Dexterity	3	2	2	2	3	3	*	*	*	*	*	*	4	3
Manual Dexterity	3	2	2	2	3	3	*	*	*	*	*	*	3	3
Eye/Hand/Foot Coord	2	2	3	2	3	2	*	*	*	*	*	*	3	3
Color Discrimination	2	1	2	1	2	3	*	*	*	*	*	*	3	3

C = Composite History
CV = Critical Variables
OP = Optimal Profile

Evaluation Profiles
Mr. Ralph Anderson

Page 3

7/16/86

	Work History					Evaluation Data							C	O
	1	2	3	4	C	1	2	3	4	5	6	7	V	P
Physical Demands														
Strength (5)	4	4	3	4	4	2	2	*	*	*	*	*	2	2
Climb/balance	1	1	0	0	1	1	0	*	*	*	*	*	0	0
Stoop/kneel/crouch	1	1	1	1	1	1	0	*	*	*	*	*	0	0
Reach/handl/fingr/feel	1	1	1	1	1	1	1	*	*	*	*	*	1	1
Talk/hear	0	0	0	0	0	1	1	*	*	*	*	*	1	1
Seeing	1	1	0	1	1	1	1	*	*	*	*	*	1	1
Environmental condit														
Indoors/out/both(3)	2	2	3	2	3	3	3	*	*	*	*	*	3	3
Cold and/or changes	0	0	0	0	0	0	0	*	*	*	*	*	0	0
Heat and/or changes	0	0	0	0	0	0	1	*	*	*	*	*	1	1
Wet/humid	0	0	0	0	0	0	0	*	*	*	*	*	0	0
Noise/vibration	1	1	0	1	1	0	0	*	*	*	*	*	0	0
Hazards	1	1	0	0	1	0	0	*	*	*	*	*	0	0
Adverse Atmosphere	1	0	0	0	1	0	1	*	*	*	*	*	1	1
Work activities														
Deal w/things objects	1	1	0	1	1	1	*	*	*	*	*	*	1	1
Communication of data	0	0	0	0	0	0	*	*	*	*	*	*	0	0
Business cont w/people	0	0	0	0	0	0	*	*	*	*	*	*	1	0
Scientific/technical	0	0	0	0	0	0	*	*	*	*	*	*	1	1
Routine,conc,orgn	1	1	1	0	1	1	*	*	*	*	*	*	1	1
Abstract & creative	0	0	0	0	0	0	*	*	*	*	*	*	0	0
Presume good of people	0	0	0	0	0	1	*	*	*	*	*	*	1	1
Process/machines	1	1	1	1	1	1	*	*	*	*	*	*	1	1
Prestige/esteem	0	0	0	0	0	0	*	*	*	*	*	*	1	0
Tangible/product sat	0	0	0	0	0	1	*	*	*	*	*	*	1	1
Work situations														
Direction/control/plan	0	0	0	0	0	0	*	*	*	*	*	*	1	0
Interp feelings/ideas	0	0	0	0	0	0	*	*	*	*	*	*	0	0
Influence opinions/att	0	0	0	0	0	0	*	*	*	*	*	*	0	0
Subjective decisions	0	0	0	0	0	1	*	*	*	*	*	*	0	0
Objective decisions	0	0	0	1	1	1	*	*	*	*	*	*	1	1
Deal with people	0	0	0	0	0	1	*	*	*	*	*	*	1	1
Repetitive/cyclical	1	1	1	0	1	1	*	*	*	*	*	*	1	1
Under stress/tension	0	0	0	0	0	1	1	*	*	*	*	*	1	1
Precise standards	0	0	0	1	1	1	*	*	*	*	*	*	1	1
Variety of duties	0	0	0	1	1	1	*	*	*	*	*	*	1	1

C = Composite History
CV = Critical Variables
OP = Optimum Profile

```
 Profile of possible jobs                                          Page 4
  Mr. Ralph Anderson                                              7/16/86

Jobs selecvted from the CDS data base


        D.O.T.          Difficulty   G.O.E.       Title
1.      770.685-022        0062.93   060408       JEWEL-BEARING POLISH
2.      770.685-018        0062.73   060408       JEWEL-BEARING GRINDE
3.      953.367-010        0061.43   050701       GAS-LEAK INSPECTOR
4.      523.385-010        0055.45   060419       PRESSURE-TANK OPERAT
5.      556.685-038        0054.25   060410       INJECTION-MOLDING-MA
6.      529.387-030        0054.15   060301       QUALITY-CONTROL TECH
7.      715.485-042        0053.78   060203       PINION POLISHER
8.      556.665-014        0053.40   060413       CORRUGATOR OPERATOR
9.      359.673-010        0052.81   090302       CHAUFFEUR
10.     608.685-014        0052.00   060402       BARREL POLISHER/ INS

Selected job profiles

                          C  O
                          V  P  1 2 3 4 5 6 7 8 9 10

Significant voc prep(9) 5  5  1 2 5 2 3 3 3 4 3 2
Data, People, Things(9)
                    Data 5  5  2 2 5 2 2 2 3 4 3 2
                  People 6  6  0 0 2 0 0 0 0 2 1 0
                  Things 3  3  3 3 1 3 3 3 1 3 5 1
Gen. Educational Dev(6)
               Reasoning 3  3  3 3 3 2 2 2 2 3 3 2
             Mathematics 3  3  2 2 2 1 1 1 1 2 1 1
                Language 3  3  2 2 2 1 1 1 1 2 2 2
Aptitudes            (5)
                 General 3  3  3 3 3 2 2 2 2 2 2 2
        Verbal Aptitudes 3  3  2 2 3 2 2 2 2 2 2 2
     Numerical Aptitudes 2  2  2 2 2 2 1 2 2 2 2 2
      Spatial Perception 3  3  3 3 2 2 3 2 2 2 2 2
         Form Perception 3  3  3 3 3 2 3 3 3 3 3 2
       Clerical Aptitude 2  2  1 1 2 1 2 2 2 3 2 2
      Motor Coordination 3  3  3 3 3 2 3 3 2 2 2 2
        Finger Dexterity 3  3  3 3 2 2 3 2 2 3 2 2
        Manual Dexterity 3  3  3 3 3 2 3 3 3 1 3 2
     Eye/Hand/Foot Coord 3  3  1 1 2 1 1 1 1 1 3 1
    Color Discrimination 3  3  1 1 3 1 1 1 3 2 2 2
```

Profiles of possible jobs
Mr. Ralph Anderson

	CV	OP	1	2	3	4	5	6	7	8	9	10
Physical Demands												
Strength (5)	2	2	2	2	2	2	2	2	2	2	2	2
Climb/balance	0	0	0	0	0	0	0	0	0	0	0	0
Stoop/kneel/crouch	0	0	0	0	0	0	0	0	0	0	0	0
Reach/handl/fingr/feel	1	1	1	1	1	1	1	1	1	1	1	1
Talk/hear	1	1	0	0	0	0	0	0	0	0	0	0
Seeing	1	1	1	1	1	1	1	1	1	1	1	1
Environmental condit												
Indoors/out/both(3)	3	3	1	1	3	1	1	1	1	1	1	1
Cold and/or changes	0	0	0	0	0	0	0	0	0	0	0	0
Heat and/or changes	1	1	0	0	0	0	0	0	0	0	0	0
Wet/humid	0	0	0	0	0	0	0	0	0	0	0	0
Noise/vibration	0	0	0	0	0	0	0	0	0	0	0	0
Hazards	0	0	0	0	0	0	0	0	0	0	0	0
Adverse Atmosphere	1	1	0	0	0	0	0	0	0	1	0	0
Work activities												
Deal w/things objects	1	1	1	1	1	1	1	1	1	1	1	1
Communication of data	0	0	0	0	0	0	0	0	0	0	0	0
Business cont w/people	1	0	0	0	0	0	0	0	0	0	0	0
Scientific/technical	1	1	0	0	0	0	0	0	0	0	0	0
Routine,conc,orgn	1	1	0	0	0	0	0	0	0	0	1	0
Abstract & creative	0	0	0	0	0	0	0	0	0	0	0	0
Presume good of people	1	1	0	0	0	0	0	0	0	0	0	0
Process/machines	1	1	1	1	1	1	1	1	1	1	1	1
Prestige/esteem	1	0	0	0	0	0	0	0	0	0	0	0
Tangible/product sat	1	1	0	0	0	0	0	0	0	0	0	0
Work situations												
Direction/control/plan	1	0	0	0	0	0	0	0	0	0	0	0
Interp feelings/ideas	0	0	0	0	0	0	0	0	0	0	0	0
Influence opinions/att	0	0	0	0	0	0	0	0	0	0	0	0
Subjective decisions	0	0	0	0	0	0	0	0	0	0	0	0
Objective decisions	1	1	1	1	1	1	0	0	0	0	0	0
Deal with people	1	1	0	0	0	0	0	0	0	0	0	0
Repetitive/cyclical	1	1	1	1	0	1	1	1	1	0	0	1
Under stress/tension	1	1	0	0	0	0	0	0	0	0	0	0
Precise standards	1	1	1	1	1	1	1	1	1	1	1	1
Variety of duties	1	1	0	0	0	0	0	0	0	0	0	1

CV = Critical Variables
OP = Optimum Profile

Labor Market Access
(LMA)

```
                   - L A B O R   M A R K E T   A C C E S S -
 -----------------------------------------------------------------------------

CASE # : 005
DATE (MM/DD/YY) : 3/26/86
CLIENT NAME : Ralph Andersen
ADDRESS : 49 E. Roosevelt Ave.
CITY,STATE : Chippewa Falls, Wisconsin 54759
COUNSELOR NAME : Dr. Karl Botterbusch
COMPANY :

--------------------------------------------------------------------------------


                  - CLIENT FUNCTIONING SUMMARY  :  DOT SEARCH -

                            GED                 APTITUDES
                     SVP   R M L  STRENGTH   G V N S P Q K F M E C
 -----------------------------------------------------------------------------
|  PRE - ACCESS     |                                                          |
|        LOW :      |  3    2 1 1     S       5 5 5 5 5 5 5 5 5 5 5            |
|       HIGH :      |  5    3 2 3     H       3 4 4 4 3 4 4 3 3 3 3            |
 -----------------------------------------------------------------------------
|  POST - ACCESS    |                                                          |
|        LOW :      |  1    1 1 1     S       5 5 5 5 5 5 5 5 5 5 5            |
|       HIGH :      |  5    3 2 3     L       3 3 4 4 3 4 4 3 3 2 3            |
 -----------------------------------------------------------------------------
| PHYSICAL DEMANDS                               PRE-ACCESS     POST-ACCESS   |
 -----------------------------------------------------------------------------

|                         CLIMBING AND/OR BALANCING    Y          N           |
|       STOOPING,KNEELING,CROUCHING AND/OR CRAWLING    Y          N           |
|        REACHING,HANDLING,FINGERING AND/OR FEELING    Y          Y           |
|                            TALKING AND/OR HEARING    Y          Y           !
|                                            SEEING    Y          Y           |
 -----------------------------------------------------------------------------
| WORKING CONDITIONS                             PRE-ACCESS     POST-ACCESS   |
 -----------------------------------------------------------------------------
|                           INSIDE, OUTSIDE OR BOTH    B          I           |
|         EXTREMES OF COLD PLUS TEMPERATURE CHANGES    Y          N           |
|         EXTREMES OF HEAT PLUS TEMPERATURE CHANGES    Y          Y           |
|                                     WET AND HUMID    Y          N           |
|                              NOISE AND VIBRATIONS    Y          N           |
|                                           HAZARDS    Y          N           |
|  FUMES,TOXIC CONDITIONS,DUST AND POOR VENTILATION    Y          Y           |
 -----------------------------------------------------------------------------
```

```
                    - L A B O R   M A R K E T   A C C E S S -
------------------------------------------------------------------------------

                   - ACCESS SUMMARY  :  DOT SEARCH -

    DATABASE : NATIONAL                                 LABOR FORCE : TOTAL

                       # JOBS          % JOBS           AVERAGE WAGES
------------------------------------------------------------------------------
|  PRE - ACCESS    |   27930430       26.93            $255.09              |
|                  |                                                        |
------------------------------------------------------------------------------
|                  |                                                        |
|  POST - ACCESS   |   19282139       18.59            $257.09              |
|                  |                                                        |
------------------------------------------------------------------------------
|                  |                                                        |
|  DIFFERENCES     |   8648291        30.96             -$2.00              |
|                  |                                                        |
------------------------------------------------------------------------------

NOTE: % OF JOBS (PRE & POST INJURY) REPRESENTS ACCESS TO THE LABOR MARKET.
      THE PERCENTAGE DIFFERENCE IN JOBS REPRESENTS CHANGE IN THE CLIENT'S
      PERSONAL ACCESS TO THE LABOR MARKET.
------------------------------------------------------------------------------
                TOTAL NUMBER OF JOBS IN DATABASE = 103723103
                1573 RECORDS MATCH ON PRE- AND/OR POST-ACCESS

              - OCCUPATIONAL ACCESS SUMMARY  :  DOT SEARCH -

         GED  APTITUDES    PHYS     WORK                                MATCHES
CEN SVP RML GVNSPQKFMEC  DEMANDS   COND     DOT CODE    WAGES         PRE POST
 ------------------------------------------------------------------------------
755  5  323 34444444354  M 46      I 3      575382018  $316.36         Y  N
518  5  323 44443444355  L 346     I 5      628684030  $397.34         Y  N
797  5  323 33444444345  L 46      I        827384010  $353.14         N  Y
699  5  323 44444444344  M 2346    I 356    951685010  $502.30         Y  N
436  5  322 34443544354  M 346     I 3      313381022  $182.27         Y  N
436  5  322 34443444354  M 346     I        313381034  $182.27         Y  N
748  5  322 34443444353  M 346     I 47     362382010  $185.14         Y  N
748  5  322 34443544353  L 346     I 7      362684014  $185.14         Y  N
748  5  322 34443444353  M 346     I 47     362382014  $185.14         Y  N
455  5  322 44444444455  L 4       I 7      389684010  $217.28         Y  Y
756  5  322 34444444355  H 46      I 6      510465010  $292.73         Y  N
763  5  322 34444444355  L 4       I 5      522662014  $332.66         Y  N
757  5  322 44443444354  L 46      I 45     521585010  $419.74         Y  N
777  5  322 34444444345  L 4       I 46     529482010  $298.02         Y  N
777  5  322 33444444355  L 4       I        529682018  $298.02         N  Y
757  5  322 34443444354  L 46      I        541682010  $419.74         Y  Y
796  5  322 34443444343  M 346     I        549367010  $318.35         Y  N
756  5  322 34444444445  L 246     I 467    550585030  $292.73         Y  N
768  5  322 34443444354  M 346     I 5      555682014  $315.58         Y  N
766  5  322 34443444355  M 4       I        553685050  $357.18         Y  N
757  5  322 34444444354  M 4       I        558685038  $419.74         Y  N
725  5  322 34444444355  M 4       I        559382050  $317.81         Y  N
757  5  322 34444444454  M 46      I 467    559382022  $419.74         Y  N
757  5  322 34444443355  M 34      I 6      558682010  $419.74         Y  N
733  5  322 34443444354  M 346     I 57     562685018  $284.96         Y  N
```

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              - OCCUPATIONAL ACCESS SUMMARY  :  DOT SEARCH -

         GED  APTITUDES    PHYS     WORK                              MATCHES
CEN SVP  RML GVNSPQKFMEC  DEMANDS   COND     DOT CODE    WAGES        PRE POST
 ----------------------------------------------------------------------------
755  5   323 34444444354  M 46      I 3      575382018  $316.36        Y   N
518  5   323 44443444355  L 346     I 5      628684030  $397.34        Y   N
797  5   323 33444444345  L 46      I        827384010  $353.14        N   Y
699  5   323 44444444344  M 2346    I 356    951685010  $502.30        Y   N
436  5   322 34443544354  M 346     I 3      313381022  $182.27        Y   N
436  5   322 34443444354  M 346     I        313381034  $182.27        Y   N
748  5   322 34443444353  M 346     I 47     362382010  $185.14        Y   N
748  5   322 34443544353  L 346     I 7      362684014  $185.14        Y   N
748  5   322 34443444353  M 346     I 47     362382014  $185.14        Y   N
455  5   322 44444444455  L 4       I 7      389684010  $217.28        Y   Y
756  5   322 34444444355  H 46      I 6      510465010  $292.73        Y   N
763  5   322 34444444355  L 4       I 5      522662014  $332.66        Y   N
757  5   322 44443444354  L 46      I 45     521585010  $419.74        Y   N
777  5   322 34444444345  L 4       I 46     529482010  $298.02        Y   N
777  5   322 33444444355  L 4       I        529682018  $298.02        N   Y
757  5   322 34443444354  L 46      I        541682010  $419.74        Y   Y
796  5   322 34443444343  M 346     I        549367010  $318.35        Y   N
756  5   322 34444444445  L 246     I 467    550585030  $292.73        Y   N
768  5   322 34443444354  M 346     I 5      555682014  $315.58        Y   N
766  5   322 34443444355  M 4       I        553685050  $357.18        Y   N
757  5   322 34444444354  M 4       I        558685038  $419.74        Y   N
725  5   322 34444444355  M 4       I        559382050  $317.81        Y   N
757  5   322 34444444454  M 46      I 467    559382022  $419.74        Y   N
757  5   322 34444443355  M 34      I 6      558682010  $419.74        Y   N
733  5   322 34443444354  M 346     I 57     562685018  $284.96        Y   N
766  5   322 34444444354  L 46      I 57     559662010  $357.18        Y   N
777  5   322 34444444353  M 46      I        559482014  $298.02        Y   N
757  5   322 34443444354  M 4       I 4      559682026  $419.74        Y   N
777  5   322 44444444354  M 346     I        559682030  $298.02        Y   N
756  5   322 34444444355  H 4       I 46     570482010  $292.73        Y   N
706  5   322 34444444355  M 46      I 56     615662010  $316.65        Y   N
715  5   322 34443443355  H 46      I 5      619462014  $374.95        Y   N
518  5   322 44444443355  M 46      I 567    630684010  $397.34        Y   N
796  5   322 33443444355  L 46      I        703687014  $318.35        N   Y
677  5   322 33443443353  L 46      I        716382014  $310.87        N   Y
785  5   322 34443443354  M 4       I        728684014  $298.50        Y   N
796  5   322 34444444455  M 46      I        737387014  $318.35        Y   N
696  5   322 34444444355  M 46      B 5      950685010  $421.59        Y   N
796  5   322 34443444354  L 46      B        953367014  $318.35        Y   N
436  5   321 34443444354  M 46      I        313381014  $182.27        Y   N
769  5   321 34443444345  M 24      I 5      670362010  $268.43        Y   N
795  5   312 44444444344  M 346     I        369384014  $326.47        Y   N
795  5   312 44543544353  L 46      I 7      362684018  $326.47        Y   Y
486  5   312 34444444345


               - L A B O R   M A R K E T   A C C E S S -
```

Occupational Access System (OASYS)

```
ABILITY PROFILES               NAME: RALPH J. ANDERSEN                      ST-02

VARIABLE:  SVP-MIN MAX   GED R M L   PHY S  2 3 4 5 6   ENV L  2 3 4 5 6 7
    JOBS:             5          3 2 3       H  Y Y Y   Y       B        Y Y Y
  PERSON:        1    5          3 3 3       L  N N             I  N   N N N

VARIABLE:  APT G V N S P Q K F M E C   TEMP D F I J M P R S T V
    JOBS:      3 4 4 3 4 4 3 3 3 3 4                Y   Y   Y Y
  PERSON:      3 3 4 3 3 4 3 3 2 3 3        Y N N N

VARIABLE:  INT 1A 2A 3A 4A 5A   1B 2B 3B 4B 5B
    JOBS:       Y     Y                    Y
  PERSON:       N  Y  Y  Y  Y    Y  Y  N  Y  Y

VARIABLE:  DATA 0 1 2 3 4 5 6  PEOPLE 0 1 2 3 4 5 6 7 8  THINGS 0 1 2 3 4 5 6 7
    JOBS:                   Y                           Y                 Y Y Y
  PERSON:       N N N N N   N         N N N N N N N N           N N         N N N


*** ADJUSTED VARIABLES SUMMARY ***

GENERAL EDUCATIONAL DEVELOPMENT
     MATH                   Changed from --  Grades 4 - 5   to --  Grades 6 - 8

APTITUDES
     V: VERBAL              Changed from --  Low 33%  to --  Mid 33%
     P: FORM PERCEPTION     Changed from --  Low 33%  to --  Mid 33%
     M: MANUAL DEXTERITY    Changed from --  Mid 33%  to --  Upr 33%
     C: COLOR DISCRIMINATION Changed from --  Low 33%  to --  Mid 33%

RESTRICTED DATA, PEOPLE, AND THINGS
     D 0 : Synthesizing
     D 1 : Coordinating
     D 2 : Analyzing
     D 3 : Compiling
     D 4 : Computing
     D 6 : Comparing
     P 0 : Mentoring
     P 1 : Negotiating
     P 2 : Instructing
     P 3 : Supervising
     P 4 : Diverting
     P 5 : Persuading
     P 6 : Speaking-Signaling
     P 7 : Serving
     T 0 : Setting Up
     T 1 : Precision Work
     T 5 : Tending
     T 6 : Feeding-Offbearing
     T 7 : Handling
```

STRENGTH

Changed from -- Heavy to -- Light

RESTRICTED PHYSICALS

- 2: Climb &/or Balance
- 3: Stooping, Kneeling, Crouching &/Or Crawling

RESTRICTED TEMPERAMENTS

- F: FEELINGS, IDEAS, OR FACTS (FIF)
- I: INFLUENCING (INFLU)
- J: SENSORY OR JUDGMENTAL CRITERIA (SJC)

REQUIRED TEMPERAMENTS

- D: DIRECTION, CONTROL & PLANNING (DCP)

LOCATION

Changed from -- B: Both to -- I: Indoor

RESTRICTED ENVIRONMENTS

- 2: Extreme Cold
- 4: Wet-Humid
- 5: Noise-Vibes
- 6: Hazards-Risks

RESTRICTED INTERESTS

- 1A: Things & Objects
- 3B: Abstract-Creative

REQUIRED INTERESTS

- 2A: Business with People
- 3A: Routine-Organized
- 4A: For Good of People
- 5A: Prestige-Esteem Others
- 1B: Communicate Data
- 2B: Scientific-Technical
- 4B: Proc.-Mach.-Technique
- 5B: Tangible Satisfaction

```
T A R G E T   O C C U P A T I O N S

NAME: ANDERSEN, RALPH J.                SS# 111-33-4444
SEARCH LEVEL SELECTED: S   Jobs Meeting All Criteria:    59     Date: 05/06/86

     MTEWA - Machine, Tools, Equipment, and Work Aids
     MPSMS - Material, Products, Subject Matter, and Services

Job Search Criteria 1 :  SAME MTEWA WITH SAME MPSMS  (Inferences Follow)
     Train: MINIMUM TRAINING NEEDED, MAY REQUIRE SOME O.J.T. FAMILIARIZATION
  Employer: CONCENTRATE ON PREVIOUS EMPLOYERS FOR JOB OPPORTUNITIES
    Modify: NO R.T.W. MODIFICATION STRATEGY NECESSARY

DOT CODE  JOB TITLE                   GED PHY    ENV     SVP APTITUDES   GOE
410687014 GOAT HERDER                 211 L  4   I     7 3   44544544455 030401
411684010 CAPONIZER                   211 L  4 6 I       2   44544543354 030401
529665014 WASHROOM OPERATOR           211 S  4   I       2   44544534355 060415

Job Search Criteria 2 :  SIMILAR MTEWA WITH SAME MPSMS  (Inferences Follow)
     Train: MUST LEARN USE OF SIMILAR MTEWA, BRIEF O.J.T. IMPLIED
  Employer: CONCENTRATE ON PREVIOUS EMPLOYERS FOR JOB OPPORTUNITIES
    Modify: R.T.W. MODIFICATION STRATEGY IMPLIED, FOCUS ON PERSON THEN JOB

DOT CODE  JOB TITLE                   GED PHY    ENV     SVP APTITUDES   GOE
521687086 NUT SORTER                  111 S  4 6 I       2   44554533455 060302
521685038 BRINE-TANK-SEPARATOR OPERAT 111 L  4   I       2   44444444355 060415
521685094 CRUSHING-MACHINE OPERATOR   111 L  4   I       2   44544544455 060415
521685234 NUT GRINDER                 111 L  4 6 I       2   44444544455 060415
521685238 NUT-SORTER OPERATOR         211 L  4 6 I       3   34433443355 060415
521687118 SHELLER 1                   111 L  4   I       1   44544543355 060428
525687066 POULTRY BONER               111 L  4   I       2   44444443354 060428
529685102 DUMPING-MACHINE OPERATOR    111 L  4 6 I       2   44434434455 060440

Job Search Criteria 3 :  SAME MTEWA WITH SIMILAR MPSMS  (Inferences Follow)
     Train: MUST LEARN USE OF SIMILAR MPSMS, SOME TRAINING IMPLIED
  Employer: REVIEW PREVIOUS EMPLOYERS FOR OPPORTUNITIES, CONSIDER SIMILAR TYPES
    Modify: R.T.W. MODIFICATION STRATEGY IMPLIED, FOCUS ON JOB THEN PERSON

DOT CODE  JOB TITLE                   GED PHY    ENV     SVP APTITUDES   GOE
919663010 DELIVERER, CAR RENTAL       222 L  45  I       3   44434434334 050803
919663022 ESCORT-VEHICLE DRIVER       212 S  4 6 I       2   44444434334 050803
762684042 GRIP ASSEMBLER              322 L  4 6 I       4   34433434355 060223
761684042 STOCK PATCHER               311 L  4 6 I       3   34433433353 060225
569687022 SORTER 1                    111 L  4 6 I       2   44544544455 060302
762687018 BOX REPAIRER 2              211 L  4 6 I       2   44543544354 060302
764687022 BARREL INSPECTOR, TIGHT     212 L  4 6 I       4   44443444455 060302
764687054 CULLER                      212 L  4 6 I       3   44443444355 060302
769687026 INSPECTOR                   222 L  4 6 I       3   34443444454 060302
667685014 BAND-SAW OPERATOR           111 L  4   I       2   44444544455 060403
669685098 VENEER REPAIRER, MACHINE    211 L  4 6 I       2   44543544335 060403
669686010 AUTOMATIC-NAILING-MACHINE F 111 L  4   I       2   45544534355 060403
669685018 BLIND-SLAT-STAPLING-MACHINE 211 L  4   I       2   44544544445 060420
669685066 NAILING-MACHINE OPERATOR, A 221 L  4   I       2   44444534345 060420
669685070 ROOF-TRUSS-MACHINE TENDER   211 L  4   I       2   44544544355 060420
669686022 REED-PRESS FEEDER           211 L  4   I       2   44534534355 060420
694685026 LOADING-MACHINE OPERATOR    211 L  4   I       3   44444443335 060420
```

TARGET OCCUPATIONS

NAME: ANDERSEN, RALPH J. SS# 111-33-4444
SEARCH LEVEL SELECTED: S Jobs Meeting All Criteria: 59 Date: 05/06/86

DOT CODE	JOB TITLE	GED	PHY	ENV	SVP	APTITUDES	GOE
762684030	CURTAIN-STRETCHER ASSEMBLER	221	L 4	I	2	44443534355	060422
764687042	BUNG DRIVER	111	L 4	I	1	44544544455	060422
764687062	HEADING MATCHER AND ASSEMBL	222	L 4	I	3	44443543355	060422
764687098	PLUGGER	111	L 4	I	1	44544544355	060422
762687046	HARDWARE ASSEMBLER	211	L 4	I	2	44544533355	060423
762687054	PARTITION ASSEMBLER	111	L 4	I	1	44444534355	060423
764687014	ASSEMBLER, FAUCETS	211	L 4	I	2	44544543355	060423
762684018	ASSEMBLY OPERATOR	222	L 4	I	3	34533534355	060425
764687066	HEADING REPAIRER	211	L 4 6	I	3	44443543455	060425
769684042	SAMPLE MAKER, VENEER	211	L 4 6	I	3	44434444454	060425
762684022	BASKET MENDER	211	L 4 6	I	3	44433433354	060434
762687058	SCREEN TACKER	211	L 4	I	2	44544544455	060434
929687026	LINER INSERTER	111	L 4	I	2	44544544355	060438
929687038	RETURNED-CASE INSPECTOR	111	L 4 6	I	2	44543544355	060439
913663014	MOBILE-LOUNGE DRIVER	322	L 4 6	I	3	34434434334	090301
359673010	CHAUFFEUR	212	L 4 6	I	3	34434434434	090302

Job Search Criteria 4 : SIMILAR MTEWA WITH SIMILAR MPSMS (Inferences Follow)
Train: MUST LEARN USE OF SIMILAR MTEWA AND MPSMS, TRAINING IMPLIED
Employer: REVIEW PREVIOUS EMPLOYERS FOR OPPORTUNITIES, CONSIDER SIMILAR TYPES
Modify: R.T.W. MODIFICATION STRATEGY IMPLIED, CONSIDER JOB AND PERSON

DOT CODE	JOB TITLE	GED	PHY	ENV	SVP	APTITUDES	GOE
669682034	CROZE-MACHINE OPERATOR	311	L 4	I 7	4	34434534345	060203
569685042	GLUE SPREADER, VENEER	211	L 4	I	3	44443444355	060403
569685074	VENEER TAPER	211	L 4 6	I	3	44443434355	060403
663685022	PUNCHER	211	L 4	I	2	44544534355	060403
663685030	SHAKE BACKBOARD NOTCHER	211	L 4	I	2	44454544345	060403
665686018	VENEER-JOINTER HELPER	111	L 4	I	2	44544544355	060403
662686010	END-TOUCHING-MACHINE OPERAT	111	L 4 6	I	1	44544544455	060409
663686026	SLICING-MACHINE TENDER	111	L 4	I	1	44444544355	060409
539685010	COATER OPERATOR, INSULATION	221	L 4	I	2	44444544455	060421
762687038	GLUER-AND-WEDGER	211	L 4	I	2	44544544355	060425
769687022	FRAME TRIMMER 2	211	L 4	I	2	44544544354	060425
795684014	EDGE STRIPPER	212	S 4 6	I	4	44444543354	060426
739684126	MAT CUTTER	211	L 4 6	I	2	44433534445	060434
739687098	FLOOR WORKER	111	L 4	I	1	44544544455	060434
669685090	TIPPLE TENDER	222	L 4	I	2	44444534344	060440

OCCUPATIONAL CHOICE COMPARISON

NAME: RALPH J. ANDERSEN SS#: 111-22-3333
Client Skills-Job Goal Comparison: 729.281-010 AUDIO-VIDEO REPAIRER

SKILL-JOB DEMAND VARIABLE	PERSON	OCCUPATION	COMMENT
GENERAL EDUCATIONAL DEVELOPMENT			
REASONING	Grades 6 - 8	Grades 9 -12	UNDER QUALIFIED
MATH	Grades 6 - 8	Grades 6 - 8	QUALIFIED
LANGUAGE	Grades 6 - 8	Grades 6 - 8	QUALIFIED
APTITUDES			
G: INTELLIGENCE	Mid 33%	Mid 33%	QUALIFIED
V: VERBAL	Mid 33%	Low 33%	QUALIFIED
N: NUMERICAL	Low 33%	Low 33%	QUALIFIED
S: SPATIAL	Mid 33%	Mid 33%	QUALIFIED
P: FORM PERCEPTION	Mid 33%	Mid 33%	QUALIFIED
Q: CLERICAL PERCEPTION	Low 33%	Low 33%	QUALIFIED
K: MOTOR COORDINATION	Mid 33%	Low 33%	QUALIFIED
F: FINGER DEXTERITY	Mid 33%	Mid 33%	QUALIFIED
M: MANUAL DEXTERITY	Upr 33%	Mid 33%	QUALIFIED
E: EYE,HAND,FOOT COORD.	Mid 33%	Bot 10%	QUALIFIED
C: COLOR DISCRIMINATION	Mid 33%	Low 33%	QUALIFIED
DATA, PEOPLE, AND THINGS			
D 0 : Synthesizing	UNABLE		
D 1 : Coordinating	UNABLE		
D 2 : Analyzing	UNABLE	PRESENT	MISMATCH
D 3 : Compiling	UNABLE		
D 4 : Computing	UNABLE		
D 5 : Copying	NO HIST		
D 6 : Comparing	UNABLE		
P 0 : Mentoring	UNABLE		
P 1 : Negotiating	UNABLE		
P 2 : Instructing	UNABLE		
P 3 : Supervising	UNABLE		
P 4 : Diverting	UNABLE		
P 5 : Persuading	UNABLE		
P 6 : Speaking-Signaling	UNABLE		
P 7 : Serving	UNABLE		
P 8 : Take Instruction-Help	SKILLED	PRESENT	
T 0 : Setting Up	UNABLE		
T 1 : Precision Work	UNABLE	PRESENT	MISMATCH
T 2 : Operating Controlling	SKILLED		
T 3 : Driving Operating	SKILLED		
T 4 : Manipulating	SKILLED		
T 5 : Tending	UNABLE		
T 6 : Feeding-Offbearing	UNABLE		
T 7 : Handling	UNABLE		
STRENGTH			
LIFT, CARRY, PUSH, PULL	Light	Light	QUALIFIED
PHYSICALS			

OCCUPATIONAL CHOICE COMPARISON

NAME: RALPH J. ANDERSEN SS#: 111-22-3333
Client Skills-Job Goal Comparison: 729.281-010 AUDIO-VIDEO REPAIRER

SKILL-JOB DEMAND VARIABLE	PERSON	OCCUPATION	COMMENT
2: Climb-Bal	UNABLE		
3: Stoop-Kneel	UNABLE		
4: Reach-Handle	SKILLED	PRESENT	
5: Talk-Hear	NO HIST		
6: Seeing	SKILLED	PRESENT	
LOCATION			
INSIDE, OUTSIDE, BOTH	I: Indoor	I: Indoor	QUALIFIED
ENVIRONMENTS			
2: Extreme Cold	UNABLE		
3: Extreme Heat	NO HIST		
4: Wet-Humid	UNABLE		
5: Noise-Vibes	UNABLE		
6: Hazards-Risks	UNABLE		
7: Atmospheric	SKILLED		
TEMPERAMENTS			
D: DIR, CTL & PLAN (DCP)	REQUIRED		MISMATCH
F: FEEL, IDEA, OR FACT (FIF)	UNABLE		
I: INFLUENCING (INFLU)	UNABLE		
J: SENSE OR JUDGE (SJC)	UNABLE		
M: MEAS OR VARIFIABLE (MVC)	SKILLED	PRESENT	
P: DEALING WITH PEOPLE (DEPL)	NO HIST		
R: REPEAT, CONT (REPCON)	SKILLED		
S: STRESSFUL (PUS)	NO HIST		
T: SET LIM, TOL STD (STS)	SKILLED	PRESENT	
V: VARIETY AND CHANGE (VARCH)	SKILLED		
INTERESTS			
1A: Things & Objects	UNABLE	PRESENT	MISMATCH
2A: Business with People	REQUIRED		MISMATCH
3A: Routine-Organized	REQUIRED		
4A: For Good of People	REQUIRED		MISMATCH
5A: Prestige-Esteem Others	REQUIRED		MISMATCH
1B: Communicate Data	REQUIRED		MISMATCH
2B: Scientific-Technical	REQUIRED		MISMATCH
3B: Abstract-Creative	UNABLE		
4B: Proc.-Mach.-Technique	REQUIRED	PRESENT	
5B: Tangible Satisfaction	REQUIRED		MISMATCH

ValSEARCH Series

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Materials Development Center                                       PAGE  1
University of Wisconsin-Stout                                      4/ 8/86
Menomonie, WI 54751  (715) 232-1169                              TEST FILE

                                                                 REC#    1
BUSINESS MANAGEMENT                       MURRAY BUSINESS SCHOOL
INTRODUCTION TO OFFICE MANAGEMENT         2121 E. 21ST STREET
TECHNIQUES IN SMALL BUSINESS OPERATION    BELLEVILLE, AZ 21212
ADMISSION REQUIRES HIGH SCHOOL DIPLOMA    OR HIGH SCHOOL EQUIVALENT CERTIFICATE.

GENERAL EDUCATIONAL DEVELOPMENT          OTHER FACTORS
  REASONING DEVELOPMENT            4       DURATION OF PROGRAM (WEEKS)    104
  MATHEMATICAL DEVELOPMENT         4       COST OF PROGRAM/TUITION        232
  LANGUAGE DEVELOPMENT             4       MONTHS RELATED WORK EXP.         X
                                           LOCATION CODE                    1
                                           DAY OR NIGHT PROGRAM             D
APTITUDES                                  CERTIFICATE OR DEGREE            Y
  G - INTELLIGENCE                 3       H.S. DIPLOMA/GED CERT. REQ.      Y
  V - VERBAL APTITUDE              3       HANDICAPPED ACCESSIBLE           Y
  N - NUMERICAL APTITUDE           3       SPECIAL TESTING REQ.             N
  S - SPATIAL APTITUDE             4       SPECIAL EQUIPMENT REQ/AVAIL      N
  P - FORM APTITUDE                3       TRANSPORTATION REQ/AVAIL         N
  Q - CLERICAL APTITUDE            3       PAYMENT PLANS AVAIL/REQ          Y
  K - MOTOR COORDINATION           4       FINANCIAL AID AVAIL/REQ          Y
  F - FINGER DEXTERITY             4       HOUSING ACCOMODATIONS AVAIL/RE   N
  M - MANUAL DEXTERITY             4       CHILD CARE AVAIL/REQ             N
  E - EYE-HAND-FOOT COORD.         4       PLACEMENT ASSISTANCE AVAIL/REQ   Y
  C - COLOR DISCRIMINATION         X

TEMPERAMENTS                             WORKING CONDITIONS
  DIRECT/CONTROL/PLAN       (D)    Y       1.INSIDE  2.OUTSIDE  3.BOTH      1
  FEELING/IDEAS/FACTS       (F)    X       EXTREME COLD                     X
  INFLUENCING               (I)    X       EXTREME HEAT                     X
  SENSORY/JUDGEMENTAL       (J)    X       WET AND/OR HUMID                 X
  MEASURABLE/VERIFIABLE     (M)    X       NOISE AND/OR VIBRATIONS          X
  DEALING WITH PEOPLE       (P)    Y       HAZARDS                          X
  REPETITIVE/CONTINUOUS     (R)    X       ATMOSPHERIC CONDITIONS           X
  PERFORMING UNDER STRESS   (S)    Y
  SET LIMITS/TOLERANCES     (T)    X
  VARIETY/CHANGE            (V)    X

PHYSICAL DEMANDS                         INTEREST FACTORS
  STRENGTH                         2       1A. THINGS       1B. COMMUNICATE  B
  CLIMB, BALANCE                   X       2A. PEOPLE       2B. TECHNICAL    A
  STOOP, KNEEL, CROUCH, CRAWL      X       3A. ROUTINE      3B. ABSTRACT     X
  REACH, HANDLE, FINGER, FEEL      Y       4A. SOCIAL GOOD  4B. MECHANICAL   X
  TALK, HEAR                       Y       5A. PRESTIGE     5B. REWARDS      X
  SEE                              Y

DATA, PEOPLE, THINGS                       G.O.E. - INTEREST AREA          11
  DATA                             1       G.O.E. - WORK GROUP/SUBGROUP  1100
  PEOPLE                           3
  THINGS                           3       SPECIFIC VOCATIONAL PREPARATION  6

AUXILIARY FIELDS
  NUMERIC 1                        X       BINARY  1                        X
  NUMERIC 2                        X       BINARY  2                        X
```

D.O.T. JOB-BANK SEARCH
CLIENT DEMOGRAPHICS

NAME: Ralph Andersen

DATE: March 31, 1986

SS #: 123-34-4444

AGE : 42

EDUCATION LEVEL: 12

REFERRED BY : DVR

COMMENTS: Test Case I
:
:
:

```
* * * * * * * * * * * * * * *   CLIENT PROFILE   * * * * * * * * * * * * * *

GENERAL EDUCATIONAL DEVELOPMENT
 REASONING DEVELOPMENT              3 L
 MATHEMATICAL DEVELOPMENT           3 L
 LANGUAGE DEVELOPMENT               3 L

WORKING CONDITIONS
 1.INSIDE  2.OUTSIDE  3.BOTH        1 E      NOISE AND/OR VIBRATIONS          N
 EXTREME COLD                       N        HAZARDS                          N
 EXTREME HEAT                       X        ATMOSPHERIC CONDITIONS           X
 WET AND/OR HUMID                   N

APTITUDES
 G - INTELLIGENCE                   3 L      K - MOTOR COORDINATION           3 L
 V - VERBAL APTITUDE                3 L      F - FINGER DEXTERITY             3 L
 N - NUMERICAL APTITUDE             4 L      M - MANUAL DEXTERITY             2 L
 S - SPATIAL APTITUDE               3 L      E - EYE-HAND-FOOT COORD.         3 L
 P - FORM APTITUDE                  3 L      C - COLOR DISCRIMINATION         3 L
 Q - CLERICAL APTITUDE              4 L

SPECIFIC VOCATIONAL PREPARATION     5 L

PHYSICAL DEMANDS
 STRENGTH                           2 L      REACH, HANDLE, FINGER, FEEL      X
 CLIMB, BALANCE                     N        TALK, HEAR                       X
 STOOP, KNEEL, CROUCH, CRAWL        N        SEE                              X

TEMPERAMENTS
 DIRECT/CONTROL/PLAN        (D)     X        DEALING WITH PEOPLE       (P)    X
 FEELING/IDEAS/FACTS        (F)     N        REPETITIVE/CONTINUOUS     (R)    X
 INFLUENCING                (I)     N        PERFORMING UNDER STRESS   (S)    X
 SENSORY/JUDGEMENTAL        (J)     N        SET LIMITS/TOLERANCES     (T)    X
 MEASURABLE/VERIFIABLE      (M)     X        VARIETY/CHANGE            (V)    X

DATA, PEOPLE, THINGS
 DATA                               5 L
 PEOPLE                             6 L
 THINGS                             3 L

INTERESTS FACTORS
 1A. THINGS       1B. COMMUNICATE X          4A. SOCIAL GOOD 4B. MECHANICAL   B
 2A. PEOPLE       2B. TECHNICAL   X          5A. PRESTIGE    5B. REWARDS      X
 3A. ROUTINE      3B. ABSTRACT    X

GUIDE TO OCCUPATIONAL EXP.          5 E
```

Materials Development Center
University of Wisconsin-Stout
Menomonie, Wisconsin 54751 (715) 232-1169

4/ 1/86
Ralph Andersen

DOT NUMBER	JOB TITLE	GED			APTITUDES											REC#
		R	M	L	G	V	N	S	P	Q	K	F	M	E	C	
207.685.018	PHOTOGRAPHIC-MACHINE OPER	3	2	2	3	3	4	4	4	4	3	4	3	5	4	4876
733.684.014	PEN-AND-PENCIL REPAIRER	3	1	2	3	3	4	4	3	4	3	3	3	5	5	4967
213.685.010	AUXILIARY-EQUIPMENT OPERA	2	1	1	3	3	4	4	3	4	3	4	3	5	5	5024
309.674.010	BUTLER, SECOND	3	1	2	3	3	5	4	4	4	4	4	4	5	4	5028
779.684.058	STONE REPAIRER	3	2	3	3	4	4	3	3	4	3	3	3	5	4	5723
729.684.038	REPAIRER, SWITCHGEAR	3	2	2	3	4	4	3	3	4	3	3	3	5	5	5994
732.684.122	SPORTS-EQUIPMENT REPAIRER	3	2	2	3	4	4	3	3	4	3	3	3	5	5	5997
222.687.038	TOOTH CLERK	3	2	2	3	4	4	3	3	4	4	3	4	5	3	6102
971.684.014	STAGER	3	2	1	3	4	4	3	3	4	3	3	3	5	5	6588
701.684.030	TOOL FILER	3	1	2	3	4	4	3	3	4	3	3	3	5	5	6702
976.684.010	DENSITY CONTROL PUNCHER	3	1	1	3	4	4	3	3	4	3	3	3	5	4	6913
962.684.018	MOTOR-POWER CONNECTOR	3	1	1	3	4	4	3	4	4	3	3	3	5	5	6981
919.683.014	DRIVER	3	1	1	3	4	4	3	4	4	3	4	3	3	4	6987
789.687.078	GARMENT-ALTERATION EXAMIN	3	1	1	3	4	4	4	3	4	4	4	3	5	4	7076
371.667.010	CROSSING TENDER	2	2	2	3	4	4	3	3	4	4	4	4	5	4	7151
208.685.030	SORTING-MACHINE OPERATOR	2	1	2	3	4	4	3	3	4	3	4	3	5	4	7236
712.684.034	PACKER, DENTURE	2	1	2	3	4	4	3	3	5	4	3	3	5	4	7243
369.684.018	UMBRELLA REPAIRER	2	1	2	3	4	4	4	3	4	4	3	3	5	5	7269
977.684.010	BOOK REPAIRER	2	1	1	3	4	4	3	3	4	3	3	3	5	4	7316
364.684.018	SPRAYER, LEATHER	2	1	2	3	4	5	4	3	5	4	3	3	5	3	7514
652.585.010	PHOTOLETTERING-MACHINE OP	2	1	2	4	3	4	4	3	4	4	3	3	5	4	7549
690.685.422	TIRE BUFFER	3	2	2	4	4	4	4	3	5	4	4	4	5	5	7688
789.684.038	PARACHUTE MENDER	3	1	1	4	4	4	4	3	5	3	3	3	5	5	7832
919.663.010	DELIVERER, CAR RENTAL	2	2	2	4	4	4	3	4	4	3	4	3	3	4	7869
939.585.010	DUST SAMPLER	2	2	2	4	4	4	3	4	4	3	4	4	5	5	7877
208.685.026	SEALING-AND-CANCELING-MAC	2	2	2	4	4	4	4	3	4	3	4	3	5	5	7919
365.674.010	SHOE-REPAIRER HELPER	2	2	1	4	4	4	4	3	5	4	4	3	5	4	8201
222.587.046	STACKER	2	2	1	4	4	4	4	4	4	4	3	3	5	5	8225
732.684.102	ROLLER-SKATE REPAIRER	2	2	1	4	4	4	4	4	4	4	3	3	5	5	8227
549.587.018	SAMPLER	2	2	1	4	4	4	4	4	4	4	4	3	5	4	8237
620.685.010	BONDER, AUTOMOBILE BRAKES	2	1	2	4	4	4	3	4	4	4	4	3	5	5	8328
709.684.034	CIGARETTE-LIGHTER REPAIRE	2	1	2	4	4	4	4	3	4	4	3	3	5	5	8450
919.663.022	ESCORT-VEHICLE DRIVER	2	1	2	4	4	4	4	4	4	3	4	3	3	4	8566
208.685.018	INSERTING-MACHINE OPERATO	2	1	2	4	4	4	4	4	4	3	4	3	5	5	8602
381.687.010	CENTRAL-SUPPLY WORKER	2	1	2	4	4	4	4	4	4	4	3	3	5	4	8632
221.587.018	ODD-PIECE CHECKER	2	1	2	4	4	4	4	4	4	4	4	3	5	4	8682
209.667.014	ORDER CALLER	2	1	2	4	4	4	4	4	4	4	4	4	5	5	8762
221.587.050	YARDAGE-CONTROL CLERK	2	1	2	4	4	4	4	4	4	4	4	4	5	5	8796
229.587.010	GREY-GOODS MARKER	2	1	2	4	4	4	5	4	4	4	4	4	5	5	8836
731.684.014	DOLL REPAIRER	2	1	1	4	4	4	3	3	4	4	3	3	5	3	8876
710.684.026	GAS-METER MECHANIC 2	2	1	1	4	4	4	3	3	5	3	3	3	5	5	8962
207.685.014	PHOTOCOPYING-MACHINE OPER	2	1	1	4	4	4	4	3	4	3	4	3	5	5	9240
217.685.010	BURSTING-MACHINE TENDER	2	1	1	4	4	4	4	3	4	3	4	3	5	5	9241
299.667.014	STOCK CHECKER, APPAREL	2	1	1	4	4	4	4	3	4	4	4	4	5	3	9408
770.687.034	ROCK BREAKER	2	1	1	4	4	4	4	3	5	3	4	3	5	4	9485
208.685.014	FOLDING-MACHINE OPERATOR	2	1	1	4	4	4	4	4	4	3	4	3	5	5	9700
979.687.014	PHOTOSTAT-OPERATOR HELPER	2	1	1	4	4	4	4	4	4	3	4	3	5	5	9755
350.677.018	STEWARD STEWARDESS, BATH	2	1	1	4	4	4	4	4	4	4	4	3	4	5	9849
221.687.014	TICKET PULLER	2	1	1	4	4	4	4	4	4	4	4	3	5	4	9884
318.687.018	SILVER WRAPPER	2	1	1	4	4	4	4	4	4	4	4	3	5	5	9907
208.685.022	MICROFILM MOUNTER	2	1	1	4	4	4	4	4	4	4	4	4	5	4	10096

Vocational Adjudicative Rehabilitation System
(VARS)

VARS Reports

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                  SUMMARY PROFILE - VOCATIONAL FACTORS

IDENTIFYING INFORMATION:
    NAME - RALPH ANDERSEN
    SOCIAL SECURITY NUMBER - 111-22-3333
    TYPE OF CLAIM - Concurrent
               Concurrent Title II and Title XVI Disability case

AGE:
    DOB - 04/30/43
    ADJUDICATION DATE - 05/29/86
    AGE AT ADJUDICATION OR ON DATE LAST INSURED:
       Younger individual age  (18-44 years)

EDUCATION:
    FORMAL - High school education or above  (12)
    DOWNWARD ADJUSTMENTS - Limited  (10)

 ------------------------------------------------------------------
* JUSTIFICATION FOR GRADE CHANGE:                                  *
* TEST RESULTS ON WRAT-R AND BOLT BOTH REVEALED READING, MATH, AND *
* SPELLING GRADE LEVELS AT ABOUT 10TH GRADE.                       *
 ------------------------------------------------------------------

*********************************************************************

PAST RELEVANT WORK EXPERIENCE:
  This is work performed within 15 years of onset of disability or
  date last insured, unless indicated by **

TITLE   TANK-TRUCK DRIVER                      CODE 903.683-018
SKILL LEVEL  Semiskilled     (SVP 3)           22 years   0 months
SKILL AREAS:  TRANSPORTING
WORK SETTINGS:  MOTOR FREIGHT TRANSPORTATION AND WAREHOUSING
EXERTIONAL LEVEL  Medium                       01/01/64 - 12/28/85

*********************************************************************

VOCATIONAL FACTORS SUMMARY:
    AGE   Younger individual age  (18-44 years)
    EDUCATION   Limited  (10)
    WORK EXPERIENCE   Semiskilled             (SVP 3)

*********************************************************************
```

SUMMARY OF MEDICAL/VOCATIONAL RESTRICTIONS

The severity of the claimant's impairment does not meet or equal that of any impairment described in the Listing of Impairments.

PHYSICAL LIMITATIONS:

STRENGTH -

Maximum sustained work capacity limited to LIGHT work
Light work involves lifting no more than 20 pounds at a time with frequent lifting or carrying of objects weighing up to 10 pounds. Even though the weight lifted may be very little, a job is in this category when it requires a good deal of walking or standing, or when it involves sitting most of the time with some pushing and pulling of arm or leg controls.

PHYSICAL LIMITS - BALANCE
Maximum sustained work capacity precludes
- Climbing ladders, scaffolding, poles, and/or ropes
- Balancing on narrow, slippery, or erratic moving surfaces

PHYSICAL LIMITS - BODY POSTURE
Maximum sustained work capacity precludes
- Stooping (bending body down and forward at waist)
- Crouching (bending body down and forward by bending legs and spine)
- Kneeling (bending legs at knees to rest on knees)
  - Kneeling is not required in most jobs at any exertional level. Therefore, inability in this area alone has a negligible impact on the occupational base remaining for any exertional level.
- Crawling (moving about on hands and knees or hands and feet)
  - This impairment interferes with the ability to perform the job duties of past relevant work
- This limitation restricts claimant to the equivalent of light or sedentary work as per POMS DI 25025.001E(2b).

PHYSICAL LIMITS - ENVIRONMENTAL
Maximum sustained work capacity limited regarding
- Extreme cold with or without temperature changes
- Wet and/or humid conditions
- Heavy noise conditions and/or vibrations
- Restricted to VERY LITTLE noise, dust, etc.

```
  ------------------------------------------------------------------
* PHYSICAL IMPAIRMENTS:                                              *
* "MECHANICAL LOW BACK PAIN WITH SOME LOSS OF MOTION..." DR.         *
* CYNTHIA SMITH PLACED THE ABOVE RESTRICTIONS PER TELEPHONE ON       *
* 8-23-85.                                                           *
  ------------------------------------------------------------------
```

THE CLAIMANT HAS SIGNIFICANT MENTAL IMPAIRMENTS WHICH INTERFERE WITH:

SUSTAINED CONCENTRATION AND PERSISTENCE:

Significant limitation in the ability to perform activities within a schedule, maintain regular attendance, and be punctual within customary tolerances

Significant limitation in the ability to work in coordination with or proximity to others without being distracted by them

Significant limitation in the ability to complete a normal work day and work week without interruptions and perform at a consistent pace without an unreasonable number and length of rest periods

SOCIAL INTERACTION:

Significant limitation in the ability to interact appropriately with the general public

Significant limitation in the ability to maintain socially appropriate behavior and to adhere to basic standards of neatness and cleanliness

MENTAL LIMITATIONS LISTED ABOVE RESULT IN THE FOLLOWING VOCATIONAL MANIFESTATIONS:

INABILITY TO PERFORM BASIC WORK ACTIVITY
Significant restriction of basic mental abilities and aptitudes needed to perform any competitive, remunerative job

```
 ------------------------------------------------------------------
* MENTAL IMPAIRMENTS:                                              *
* THE MENTAL/BEHAVIORAL LIMITATIONS ARE THE RESULT OF A PERSONALITY *
* DISORDER MADE WORSE BY EXCESSIVE ALCOHOL CONSUMPTION. UNTIL      *
* TREATMENT IS OBTAINED, THE CLIENT IS SEVERELY RESTRICTED         *
* PSYCHOLOGICALLY, NOT PHYSICALLY.                                 *
 ------------------------------------------------------------------

**********************************************************************

 --------------------------------------------------------------
*  All occupational base levels are severely compromised       *
*  by restriction to very little noise or dust, etc.           *
*  Authority and guidance are provided by CFR 404.1566(b),     *
*  CFR 416.966(b), SSR 85-15, and POMS 25025.001E(5).          *
 --------------------------------------------------------------
```

The CFR references and/or Rulings recommended indicate that a finding of CLAIMANT IS DISABLED is warranted.

It is determined by the decision maker that the
***** CLAIMANT IS DISABLED *****

Ability Information Systems Inc. VARS Report

Vocational Information Processing System
(VIPS or AIS)

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                          VIPS Reports
          Copyright Ability Information Systems, Inc.  1982


************************************************

 C L I E N T   W O R K   H I S T O R Y

 J O B   P R O F I L E

 Job title: TRACK REPAIRER                        DOT code: 910682010
 Physical demands:H346
        R  M  L
 GED:   3  2  2
              G  V  N  S  P  Q  K  F  M  E  C
 Aptitudes:   3  4  4  3  4  4  3  4  3  4  5
 SVP:  4      Temperaments:VMT    Working conditions:05
 Interests: 1A 4B
 MPSMS  code:   363       RAILROADS AND STREET RAILWAYS
 WORK   code:   102       STRUCT FAB-INSTALL-REPAIR
 DIC    code:   751       RAILROAD TRANSPORTATION
 CENSUS code:   599       CONSTRUCTION TRADES, NOT ELSEWHERE CLASSIFIED
 GOE    code:   051212    STRUCTURAL WORK
 SOC    code:   6467      Rail and Track Laying Equipment Operators
 OES    code:   80002899  ALL OTHER LABORERS & UNSKL WORKER

 J O B   D E S C R I P T I O N

 SECTION-GANG WORKER. Operates railroad track maintenance equipment, such
as portable grinder, spike puller, spike driver, and tie adzer to grind
ends of rails, remove old spikes, drive new spikes, cut ties to fit
fishplates, and perform related maintenance, working as member of crew:
Operates single- or multiple-head spike puller to pull old spikes from tie.
Raises rail, using hydraulic jack, to facilitate removal of old tie and
installation of new tie. Operates tie-adzing machine to cut portion of tie
so that tie plate can be inserted to hold rail. Drills holes through rails,
tie plates, and fishplates for insertion of bolts and spike, using power
drill. Operates single- or multiple-head spike driving machine to drive
spike into tie and secure rail. Operates track-wrench machine to tighten or
loosen bolts at joints that hold ends of rails together. Operates rail saw
to cut rails to specified lengths. Operates portable grinder to grind worn
ends of rails. Sprays ties, fishplates, and joints with oil to protect them
from weather. May paint railroad signs, such as speed limits and
gate-crossing warnings. May oversee workers and act as section leader.

               Ability Information Systems Inc.  VIPS Report
```

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------------------------------

Final profile from job history       Physical demands:H3462
      R  M  L
GED:  3  2  3
            G  V  N  S  P  Q  K  F  M  E  C
Aptitudes:  3  4  4  3  4  4  3  3  3  3  4
SVP:  5     Temperaments:VMTR          Working conditions:B567
Interests: 1A 4B 3A
MPSMS  codes:  300  320  363  451  854
WORK   codes:  002  003  013  102
SVP    codes:    4    5    3    4
DIC    codes:  116  544  679  751
CENSUS codes:  479  496  599  804
GOE    codes:  051212 030402 030401 050801

P R O F I L E   A D J U S T M E N T S
Physical demands:L23
      R  M  L
GED:  0  3  0
            G  V  N  S  P  Q  K  F  M  E  C
Aptitudes:  0  3  0  0  3  0  0  0  2  0  0
SVP:  0    Low SVP:  0    Temperaments:FIJ
Working conditions:2456       Interests:  1B 3B



*********************************************

P L A C E M E N T   M O D E


F I N A L   S E A R C H   P R O F I L E
Physical strength: L     SVP: 5    Low SVP: 0
      R  M  L
GED:  3  3  3
            G  V  N  S  P  Q  K  F  M  E  C
Aptitudes:  3  3  4  3  3  4  3  3  2  3  4

CLIENT IS RESTRICTED FROM JOBS WITH:
   Physical limits: 23
   Temperaments: FIJ           Working conditions:2456
   Interests: 1B 3B

SEARCH OPTION 1--3 digit MPSMS/WORK Code

SEARCHING FROM THESE CODES:
 MPSMS  codes:  300  320  363  451  854
    and
 WORK   codes:  002  003  013  102
 SVP    codes:    4    5    3    4

Total job profiles examined =   194
Total number of occupations selected =     0
```

```
SEARCH OPTION 2--2 digit MPSMS/WORK Code

SEARCHING FROM THESE CODES:
 MPSMS  codes:  300  320  363  451  854
    and
 WORK   codes:  002  003  013  102
 SVP    codes:    4    5    3    4

Total job profiles examined =  1339
Total number of occupations selected =    53

D I S P L A Y   O F   J O B   F E A T U R E S
            OCCUPATIONS WITH SIMILAR WORK SKILL AND MPSMS

CODE       TITLE                                PHYSICAL  GED  SVP  APT
529685102  DUMPING-MACHINE OPERATOR             L46       111  2    44434434455
403687022  VINE PRUNER                          L46       111  1    44545544355
429686010  PRESS FEEDER, BROOMCORN              L4        211  2    44444444355
410687014  GOAT HERDER                          L4        211  3    44544544455
411684010  CAPONIZER                            L46       211  2    44544543354
859683022  REINFORCING-STEEL-MACHINE OPERATO    L46       311  4    34434434335
694685026  LOADING-MACHINE OPERATOR             L4        211  3    44444443335
669685066  NAILING-MACHINE OPERATOR, AUTOMAT    L4        221  2    44444534345
769687026  INSPECTOR                            L46       222  3    34443444454
663685030  SHAKE BACKBOARD NOTCHER              L4        211  2    44454544345
569685042  GLUE SPREADER, VENEER                L4        211  3    44443444355
569685074  VENEER TAPER                         L46       211  3    44443434355
663686018  VENEER-JOINTER HELPER                L4        111  2    44544544355
669685090  TIPPLE TENDER                        L4        222  2    44444534344
669685098  VENEER REPAIRER, MACHINE             L46       211  2    44543544335
769684042  SAMPLE MAKER, VENEER                 L46       211  3    44434444454
669685070  ROOF-TRUSS-MACHINE TENDER            L4        211  2    44544544355
669685018  BLIND-SLAT-STAPLING-MACHINE OPERA    L4        211  2    44544544445
669686010  AUTOMATIC-NAILING-MACHINE FEEDER     L4        111  2    45544534355
762687058  SCREEN TACKER                        L4        211  2    44544544455
762684022  BASKET MENDER                        L46       211  3    44433433354
762687018  BOX REPAIRER 2                       L46       211  3    44543544354
762687046  HARDWARE ASSEMBLER                   L4        211  2    44544533355
762687054  PARTITION ASSEMBLER                  L4        111  1    44444534355
764687014  ASSEMBLER, FAUCETS                   L4        211  2    44544543355
764687022  BARREL INSPECTOR, TIGHT              L46       212  4    44443444455
764687042  BUNG DRIVER                          L4        111  1    44544544455
764687054  CULLER                               L46       212  3    44443444355
764687062  HEADING MATCHER AND ASSEMBLER        L4        222  3    44443543355
764687066  HEADING REPAIRER                     L46       211  3    44443543455
764687098  PLUGGER                              L4        111  1    44544544355
795684014  EDGE STRIPPER                        S46       212  4    44444543354
663685022  PUNCHER                              L4        211  2    44544534355
739684126  MAT CUTTER                           L46       211  2    44433534445
762684018  ASSEMBLY OPERATOR                    L4        222  3    34533534355
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762684030  CURTAIN-STRETCHER ASSEMBLER         L4        221  2     44443534355
762684042  GRIP ASSEMBLER                      L46       322  4     34433434355
762687038  GLUER-AND-WEDGER                    L4        211  2     44544544355
769687022  FRAME TRIMMER 2                     L4        211  2     44544544354
539685010  COATER OPERATOR, INSULATION BOARD   L4        221  2     44444544455
569686018  CORK-PRESSING-MACHINE OPERATOR      L4        111  2     44544534355
569687022  SORTER 1                            L46       111  2     44544544455
662686010  END-TOUCHING-MACHINE OPERATOR       L46       111  1     44544544455
663686026  SLICING-MACHINE TENDER              L4        111  1     44444544355
667685014  BAND-SAW OPERATOR                   L4        111  2     44444544455
669686022  REED-PRESS FEEDER                   L4        211  2     44534534355
359673010  CHAUFFEUR                           L46       212  3     34434434434
913663014  MOBILE-LOUNGE DRIVER                L46       322  3     34434434334
953583010  DRIP PUMPER                         L46       322  3     34434434354
906683018  TELEPHONE-DIRECTORY-DISTRIBUTOR D   L46       212  3     44434434334
919663010  DELIVERER, CAR RENTAL               L45       222  3     44434434334
919663022  ESCORT-VEHICLE DRIVER               S46       212  2     44444434334
929687026  LINER INSERTER                      L4        111  2     44544544355

*********************************************************************

                         NATIONAL OES STATISTICS

OES title: All other assemblers
    This OES title encompasses  405 DOT titles
    The DOT titles selected are:
      762.687-046  HARDWARE ASSEMBLER  (wooden boxes)
      762.687-054  PARTITION ASSEMBLER  (wooden boxes)
      764.687-014  ASSEMBLER, FAUCETS  (cooperage)
      764.687-062  HEADING MATCHER AND ASSEMBLER  (cooperage)
      762.684-018  ASSEMBLY OPERATOR  (woodworking)
      762.684-030  CURTAIN-STRETCHER ASSEMBLER  (woodworking)
      762.684-042  GRIP ASSEMBLER  (woodworking)

SIC   %    Industry                         Actual 1982  Projected 1995 range
           Total, all industries                315491   388040 to   404634 +
371  22.5  Motor vehicles and equipment          71099    73780 to    75937
367   9.4  Electronic components and accessori   29625    41269 to    41585 +
363   8.0  Household appliances                  25172    32850 to    35951 +
364   7.7  Electric lighting and wiring equipm   24420    32819 to    33172 +
369   5.1  Miscellaneous electrical equipment    16114    21152 to    23133 +
384   4.7  Medical and dental instruments and    14710    24374 to    24730 +
382   4.2  Measuring and controlling instrumen   13259    17415 to    17985 +
366   4.1  Communication equipment               12960    13377 to    14288
358   3.6  Refrigeration and service industry    11479    14772 to    16509 +
362   3.6  Electrical industrial apparatus       11343    14562 to    16041 +
365   3.0  Radio and television receiving equi    9482    10201 to    11199
361   3.0  Electric transmission and distribut    9404    12505 to    13892 +
372   2.8  Aircraft and parts                     8747     8253 to     8897
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 Employment Statistics for the State of Oregon
                                                          1983     1991
                                                        -------  -------
    Oes title:  ALL OTHER ASSEMBLERS                      3735     5286
      Includes these DOT titles:
          762.687-046   HARDWARE ASSEMBLER
          762.687-054   PARTITION ASSEMBLER
          764.687-014   ASSEMBLER, FAUCETS
          764.687-062   HEADING MATCHER AND ASSEMBLER
          762.684-018   ASSEMBLY OPERATOR
          762.684-030   CURTAIN-STRETCHER ASSEMBLER
          762.684-042   GRIP ASSEMBLER
    Oes title:  VENEER REPAIRER MACH                      1035      965
      Includes these DOT titles:
          669.685-098   VENEER REPAIRER, MACHINE

 S E A R C H   O F   E M P L O Y E R   F I L E

Searching from employer file:
     OR  EUGENE       Eugene, Corvallis area
Selecting all zip codes

Searching from SIC: 243   Millwork, Veneer, Plywood, and Struc
These employers may hire people for the following occupations:
        762684042  GRIP ASSEMBLER
        762684018  ASSEMBLY OPERATOR
        769687026  INSPECTOR
        769684042  SAMPLE MAKER, VENEER
        669685090  TIPPLE TENDER
        569685042  GLUE SPREADER, VENEER
        569685074  VENEER TAPER
        762684030  CURTAIN-STRETCHER ASSEMBLER
        669685066  NAILING-MACHINE OPERATOR, AUTOMATIC
        663685022  PUNCHER
        663685030  SHAKE BACKBOARD NOTCHER
        669685018  BLIND-SLAT-STAPLING-MACHINE OPERATO
        669685070  ROOF-TRUSS-MACHINE TENDER
        669685098  VENEER REPAIRER, MACHINE
        669686022  REED-PRESS FEEDER
        667685014  BAND-SAW OPERATOR
        762687038  GLUER-AND-WEDGER
        762687058  SCREEN TACKER
        665686018  VENEER-JOINTER HELPER
        669686010  AUTOMATIC-NAILING-MACHINE FEEDER
        662686010  END-TOUCHING-MACHINE OPERATOR
        663686026  SLICING-MACHINE TENDER
        762687054  PARTITION ASSEMBLER
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(503)689-9539   SWAN WOODWORKING
                  240 IRVINGTON DR                EUGENE                97404
(503)874-2612   BAUDER TIMBER PRODUCTS
                  OFF COUNTY RD 39                RIDDLE                97469
(503)687-2050   TEMPLE COUNTER TOPS INC
                  1000 CONGER                     EUGENE                97402
(503)689-5882   WALLACE CABINETS & CONSTR
                  30037 FEDERAL LN C              EUGENE                97402
(503)688-9130   GUILD MFG CO INC
                  120 N SENECA                    EUGENE                97403
(503)484-2224   TREPLEX INC
                  118 PACIFIC HWY 99 N            EUGENE                97402
(503)672-2675   NORDIC PLYWOOD INC
                  5500 N UMPQUA HWY               ROSEBURG              97470
(503)672-3331   CHAMPION INTERNATIONAL CORP
                  556 NE RIFLE RANGE RD           ROSEBURG              97470
(503)679-6767   ROSEBURG LUMBER CO INC
                  OLD HWY 99                      ROSEBURG              97470
(503)459-5384   TYEE TIMBERS INC
                  1350 S CALAPOOIA                SUTHERLIN             97479
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SCHOOL UNIVERSITY OF WISCONSIN-STOUT

ADDRESS MENOMONIE WI 54751 TYPE College

PHONE 715 232 1123 FICE 003915 REGION 3 Great lakes

CONTROL Public only MULTI CAMPUS Yes

INSTITUTION TYPE Other 4 year

ENROLLMENT RANGE 05000-09999 CALENDAR Semester STUDENT BODY Coed

OFFERING LEVEL Beyond masters-less than doctorate EVENING/W-E COURSES Yes

ADMISSION REQ. H.S. grad. or recognized equivalent

TUITIONS	PRIVATE	RESIDENT	NON-RESIDENT
UNDERGRADUATE	$	$964	$3215
GRADUATE	$	$1156	$3460

TITLE OF MAJOR	CODE/CIP	DEGREE TYPE
BUSINESS MANAGEMENT AND ADMINISTRATION	0506	4 YEAR
HOTEL AND RESTAURANT MANAGEMENT	0508	4 YEAR
EDUCATIONAL PSYCHOLOGY (INCLUDE LEARNING THEORY)	0822	4 YEAR
PRE-ELEMENTARY EDUCATION (KINDERGARTEN)	0823	4 YEAR
STUDENT PERSONNEL (COUNSELING AND GUIDANCE)	0826	4 YEAR
ART EDUCATION (METHODOLOGY AND THEORY)	0831	4 YEAR
BUSINESS, COMMERCE, AND DISTRIBUTIVE EDUCATION	0838	4 YEAR
INDUSTRIAL ARTS, VOCATIONAL, AND TECHNICAL EDUCATI	0839	4 YEAR
HOME ECONOMICS EDUCATION	0899-3	4 YEAR
ENGINEERING TECHNOLOGIES (BACCALAUREATE AND HIGHER	0925	4 YEAR
OTHER ENGINEERING	0999	4 YEAR
ART (PAINTING, DRAWING, SCULPTURE)	1002	4 YEAR
HOME ECONOMICS, GENERAL	1301	4 YEAR
CLOTHING AND TEXTILES	1303	4 YEAR
FAMILY RELATIONS AND CHILD DEVELOPMENT	1305	4 YEAR
FOODS AND NUTRITION (INCLUDE DIETETICS)	1306	4 YEAR
INSTITUTIONAL MANAGEMENT AND CAFETERIA MANAGEMENT	1307	4 YEAR
MATHEMATICS, GENERAL	1701	4 YEAR
PSYCHOLOGY, GENERAL	2001	4 YEAR
SOCIAL WORK AND HELPING SERVICES	2104	4 YEAR

Work-Match

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WORK-MATCH (TM) CAREER COUNSELLING

Ralph Andersen

02/26/86

COUNSELOR: Karl Botterbusch



SEARCH CRITERIA FOR SEARCH OF DISK FOR JOBS
LISTED VERTICALLY BELOW EACH SEARCH CRITERIA USED IS THE NUMBER OF JOBS NOT MATCHING
NOTE: 1275 JOBS ARE AVAILABLE TO SEARCH DURING THE DISK SEARCH.  ONLY THOSE WITH MATCHING GED-REASONING ARE ACTUALLY EXAMINED.
      ONLY JOBS SELECTED (MATCHES) DURING THE DISK SEARCH ARE USED FOR OTHER SEARCHES.

RIA  OGA DPT      G E D  SVP  APTITUDES<=   WORK  WORK                        WORK                                PHYS     WTG
SEC      IHH      R-RML  <=   GVNSPQKFMEC   ACT   SITUA                       FIELDS                              DEMAND
---  --- ---      -----  ---  -----------   ----  -----                       ------                              ------   ----
         663      1-333   5   33433433233   13790 1380                                                            L23

         2 1       8            1  1              1                                                               2
         314       0      7     2 1211       3      2                                                               8
         217       0      5   24155153 54    7      5                                                               6

 22  JOBS SELECTED FROM  22  JOBS WITH MATCHING PROFILES DURING THE DISK SEARCH.

RIA  DOT CODE     G E D  SVP  APTITUDES     WORK  WORK    WORK     DOT  CGB  WORK        JOB TITLE               PHYS     WTG
SEC  OGA DPT       R ML       GVNSPQKFMEC   ACT   SITUA   COND     PG#  NO.  FIELDS                              DEMAND
---  -----------  -----  ---  -----------   ----  -----   ------   ---- ---  ---------   ----------------------  ------   ----
RSC  389.684-010   3 22   5   44444444455   139   17...   I7....   0266 372  293......   EXTERMINATOR            L4....   0510
RCS  850.683-046   3 11   4   34433533335   19.   80...   056...   0851 171  012......   UTILITY-TRACTOR OPERAT  L46...   0511
RCS  850.683-038   3 12   5   34433534335   19.   80...   057...   0851 171  012......   SCRAPER OPERATOR        L46...   0511
RCE  921.663-010   3 12   5   34434534335   139   20...   I5....   0900 171  012......   BRIDGE-OR-GANTRY-CRANE  L46...   0511
RIC  709.684-090   3 11   4   44434544355   139   0....   I.....   0666 000  134056...   TUBE BENDER  HAND 1     L4....   0602
RCS  782.684-042   3 12   4   34443433353   190   80...   I.....   0779 323  164171...   MENDER                  L46...   0602
RIS  520.685-086   3 11   3   34443444355   19.   80...   I.....   0318 410  146132...   DIVIDING-MACHINE OPERA  L4....   0604
RSE  913.663-010   3 22   3   34434434334   239   487..   B.....   0886 493  013......   CHAUFFEUR               L46...   0903
RSE  309.677-010   3 23   3   33444444345   421   14...   I.....   0224 232  291......   COMPANION               L45...   1003
RSC  381.687-010   2 12   3   44444443354   139   10...   I.....   0264 000  031221...   CENTRAL-SUPPLY WORKER   L45...   0512
RIC  709.684-050   2 22   2   44433434355   139   20...   I5....   0666 348  055......   KEY CUTTER              L46...   0512
CRI  208.685-030   2 12   3   34433434354   13.   20...   I.....   0160 093  231......   SORTING-MACHINE OPERAT  L46...   0512
RIC  706.687-026   2 12   3   44443443455   139   280..   I.....   0663 000  211......   INSPECTOR  TYPE         S46...   0603
RCS  789.687-070   2 12   2   44443443354   13.   280..   I.....   0800 035  171165...   GARMENT INSPECTOR       L46...   0603
RCS  781.687-010   2 12   2   44444444453   13.   20...   I.....   0777 035  221......   ASSEMBLER               L46...   0603
RCS  786.685-030   2 11   2   44443444344   139   20...   I5....   0789 366  171......   SEWING-MACHINE OPERATO  L46...   0604
RCS  681.685-018   2 11   4   44443433354   39.   20...   I5....   0604 413  163......   BEAM-WARPER TENDER  AU  L46...   0604
AIR  976.685-026   2 11   4   44444443353   19.   20...   I56...   0941 310  202......   PRINT DEVELOPER  AUTOM  L46...   0604
RIS  710.687-010   2 11   3   44443433354   139   20...   I.....   0673 000  102061...   BELLOWS ASSEMBLER       L46...   0604
RIC  705.684-034   2 12   5   44433434355   19.   20...   I5....   0658 000  051......   METAL FINISHER          L46...   0604
RCE  921.683-062   2 22   4   34433434335   139   20...   B57...   0903 305  012......   SKIP OPERATOR           L46...   0604
SRE  359.673-010   2 12   3   34434434434   19.   1....   I.....   0243 493  013291...   CHAUFFEUR               L46...   0903
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